**OPEN SOURCE SOFTWARE NOTICE**

The open source software notice for the open source software used in this openEuler distribution (“openEuler distribution”) is provided in this document. The open source software licenses are granted by the respective right holders. With regard to the respective open source software contained in the openEuler distribution, the applicable open source software license will prevail all other license agreement, including but not limited to the openEuler Software License, in case of any conflicts.

**Warranty Disclaimer**

**THE OPEN SOURCE SOFTWARE IN THIS OPENEULER DISTRIBUTION IS PROVIDED ON AN "AS IS" BASIS, WITHOUT ANY WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.  
See the applicable licenses for more details.**

**Copyright Notice and License Texts**

**Software:** gcc-toolset-14-gcc 14.2.1

**Copyright notice:**

Copyright (c) 2011 Kyle Moffett  
Copyright (c) 2017-2019 by the contributors listed in CREDITS.TXT  
Copyright (c) 2007-2008 Even Rouault  
Copyright (c) 2007 Free Software Foundation, Inc.  
Copyright (c) 2020 Nathan Sidwell, nathan@acm.org  
Copyright (c) 2019 Anthony Green  
Copyright (c) 2007 Free Software Foundation Contributed by Ollie Wild <aaw@google.com>  
Copyright (c) 2002 Free Software Foundation Inc.  
Copyright (c) 2000 Free Software Foundation by Alexandre Oliva <aoliva@redhat.com>  
Copyright (c) 2003 Free Software Foundation.  
Copyright 1998-2004 Gilles Vollant - http:www.winimage.com/zLibDll;  
copyright 1992-1999, 2001 The Free Software Foundation Server Handling  
Copyright (c) 2007 Free Software Foundation, Inc. <http:fsf.org/>  
Copyright (c) 1989-2024 Free Software Foundation, Inc.  
Copyright (c) 2002 Free Software Foundation Origin: jmr@fulcrummicro.com Contributed by Gabriel Dos Reis <gdr@integrable-solutions.net>  
Copyright (c) 1995-2006, 2011, 2016 Jean-loup Gailly For conditions of distribution and use, see  
Copyright (c) 2000 Hewlett Packard Company  
Copyright (c) 2000-2024 Free Software Foundation, Inc.) output.write(@c  
Copyright (c) 1999, 2003 Free Software Foundation  
Copyright (c) 2001, 2002 Free Software Foundation, Inc.  
Copyright (c) 2020 Nathan Sidwell, nathan@acm.org License: Apache v2.0  
Copyright (c) 2000-2017 Free Software Foundation, Inc.  
Copyright (c) 2013 ibm  
Copyright (c) 1999, 2004 Free Software Foundation, Inc.  
Copyright (c) 1999, 2009 Free Software Foundation, Inc.  
Copyright 2003 Free Software Foundation.  
Copyright (c) 2002 Free Software Foundation Origin: PR7621, Vaclav.Haisman@logout.sh.cvut.cz Contributed by Gabriel Dos Reis <gdr@integrable-solutions.net>  
Copyright 2018 Ulf Adams  
Copyright (c) 1995-2011, 2016 Mark Adler For conditions of distribution and use, see  
Copyright (c) 2003 Mark Adler For conditions of distribution and use, see  
Copyright (c) 2004-2024 Free Software Foundation, Inc. echo ;;  
Copyright (c) 2009-2023 Free Software Foundation, Inc.  
Copyright (c) 1996, 2003-2004, 2007-2008 Red Hat, Inc.  
Copyright (c) 1997, 1998, 1999, 2000, 2004, 2009, 2012 Free Software Foundation, Inc.  
Copyright (c) 2009-2020 Free Software Foundation, Inc.  
Copyright (c) 2011-2024 Free Software Foundation, Inc.  
Copyright (c) 1999-2017 Free Software Foundation, Inc.  
Copyright (c) 2000 Free Software Foundation Contributed by Nathan Sidwell <nathan@codesourcery.com>  
Copyright (c) 2006-2024 by The D Language Foundation, All Rights Reserved written by Walter Bright Distributed under the Boost Software License, Version 1.0.  
Copyright (c) 1995 Free Software Foundation, Inc.  
Copyright (c) 2007, 2008, 2010 Free Software Foundation, Inc  
Copyright (c) 1999, 2008 red hat, inc.  
Copyright (c) 2004 Free Software Foundation.  
Copyright (c) 1995-2017 Jean-loup Gailly and Mark Adler  
copyright 1992-1999 The Free Software Foundation Server Handling  
Copyright (c) 2001-2024 Free Software Foundation, Inc.  
Copyright (c) 1998-2005 Gilles Vollant  
Copyright (c) 2001-2024, AdaCore  
Copyright (c) 2000 Free Software Foundation Contributed by Nathan Sidwell 21 June 2000 <nathan@codesourcery.com>  
Copyright (c) 1995-2017 Jean-Loup Gailly, Mark Adler. OS/400 version by P. Monnerat.) >> os400.c makemodule OS400 os400.c LINK No need to rebuild service program yet.  
Copyright (c) 1998 cygnus solutions  
Copyright (c) 2018 Free Software Foundation, Inc.  
Copyright (c) 2000, 2008 Free Software Foundation, Inc.  
Copyright 2010 The Go Authors. All rights reserved.  
Copyright (c) 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2009 Free Software Foundation, Inc.  
Copyright (c) 1995, 1996, 1997, 1998, 1999, 2002, 2003 Free Software Foundation, Inc.  
Copyright (c) 2003 Free Software Foundation.  
Copyright 2003 Free Software Foundation, Inc.  
Copyright (c) 2004, 2005, 2007, 2010, 2011 Free Software Foundation, Inc.  
Copyright (c) 2005-2024 Free Software Foundation, Inc.  
Copyright (c) YEAR YOUR NAME.  
Copyright (c) 1983 Regents of the University of California.  
Copyright (c) 1997-2022 Free Software Foundation, Inc.  
Copyright (c) 1983 Regents of the University of California.  
Copyright (c) 2020 kalray  
Copyright (c) 1995-2003 Jean-loup Gailly and Mark Adler.  
Copyright (c) 2011 Free Software Foundation  
Copyright (c) 2011 Anthony Green  
Copyright 2000, Sam Varshavchik <mrsam@courier-mta.com>  
Copyright (c) 2004 anthony green  
Copyright (c) 1991 Per Bothner.  
Copyright (c) 2014-2023 Free Software Foundation, Inc.  
Copyright (c) 2002 Free Software Foundation Contributed by Roger Sayle <roger@eyesopen.com>  
Copyright (c) 1996-2003 Red Hat, Inc.  
Copyright (c) 2004 Renesas Technology.  
Copyright (c) 2010-2022 Free Software Foundation, Inc.  
Copyright (c) 2009-2024, Free Software Foundation, Inc.  
Copyright (c) 2012-2024 Free Software Foundation, Inc. GNU userspace.  
Copyright (c) 2000-2006 Erik Andersen <andersen@uclibc.org>  
Copyright (c) 1991, 1992, 1993, 1994, 1996 Free Software Foundation, Inc.  
Copyright (c) 1996 L. Peter Deutsch and Jean-Loup Gailly  
Copyright (c), 2002 Free Software Foundation Contributed by Gabriel Dos Reis <gdr@integrable-solutions.net>  
Copyright (c) 2001 Free Software Foundation, Inc.  
Copyright (c) 2010 Free Software Foundation.  
Copyright (c) 1996,1997 Silicon Graphics  
Copyright (c) 2008 Red Hat, Inc.  
Copyright (c) 2017 Free Software Foundation, Inc.  
Copyright (c) 2002 Free Software Foundation.  
Copyright (c) 2007 Free Software Foundation, Inc  
Copyright (c) 2003, 2004, 2006, 2007, 2012 kaz kojima  
Copyright (c) 1999 Free Software Foundation.  
Copyright (c) 1999, 2000 Free Software Foundation, Inc.  
Copyright (c) 2014-2017 Free Software Foundation, Inc.  
Copyright (c) 2005, 2012 Mark Adler For conditions of distribution and use, see  
Copyright (c) 1997 Silicon Graphics Computer Systems, Inc.  
Copyright (c) 1989, 1991 Free Software Foundation, Inc.  
Copyright 2000 Free Software Foundation by Alexandre Oliva <aoliva@redhat.com>  
Copyright (c) 2009 Free Software Foundation, Inc.  
Copyright (c) 2013-2024 by The D Language Foundation, All Rights Reserved Distributed under the Boost Software License, Version 1.0.  
Copyright (c) 1999 Free Software Foundation related to bug report by Leon Bottou <leonb@research.att.com>  
Copyright 2005 Free Software Foundation  
Copyright (c) 2012 Free Software Foundation, Inc.  
Copyright (c) 2002 Free Software Foundation  
Copyright (c) 2015-2018 Free Software Foundation, Inc.  
Copyright (c) 2000, 2003, 2004 Free Software Foundation.  
Copyright (c) 1999, 2000, 2001, 2004, 2009 Free Software Foundation, Inc.  
Copyright (c) 2013 Synopsys, Inc. (www.synopsys.com)  
Copyright (c) 2000, 2001, 2003, 2005 Free Software Foundation.  
Copyright (c) 1999-2022 Free Software Foundation, Inc.  
Copyright 2001 by Stephen L. Moshier  
Copyright (c) 2011 Plausible Labs Cooperative, Inc.  
Copyright (c) 2006, 2007 Free Software Foundation.  
Copyright (c) 1995-2017 Jean-loup Gailly and Mark Adler For conditions of distribution and use, see  
Copyright (c) 2012 tilera corp.  
Copyright 2000-2024 Free Software Foundation, Inc.  
Copyright (c) 2000, 2003 Free Software Foundation.  
Copyright (c) 2015-2019 Nicira, Inc.  
Copyright (c) 2002 Free Software Foundation Origin: C++729  
Copyright (c) 2002 Free Software Foundation, Inc.  
Copyright (c) 1998, 2008, 2011 Red Hat, Inc.  
Copyright (c) 2021-2022 Free Software Foundation, Inc.  
Copyright (c) 1996, 1997, 1998, 1999, 2000, 2001, 2003, 2004, 2005, 2006, 2007, 2008, 2009 Free Software Foundation, Inc.  
Copyright 1995-2017 Jean-loup Gailly and Mark Adler ; deflate 1.2.11  
Copyright (c) 2004, 2005, 2011 Free Software Foundation.  
Copyright (c) 2000, 2002 Free Software Foundation, Inc.  
Copyright 2006 The MathWorks, Inc.  
Copyright (c) 1998, 2001, 2007, 2008 Red Hat, Inc.  
Copyright (c) 1988-2024 Free Software Foundation, Inc.  
Copyright (c) 2006 Free Software Foundation, Inc.  
Copyright (c) 2000-2024, Free Software Foundation, Inc.  
Copyright (c) 2010 CodeSourcery  
Copyright 2004 M.I.T.  
Copyright (c) 1995-1997 Free Software Foundation, Inc.  
Copyright (c) 1995,1999 Free Software Foundation, Inc.  
Copyright (c) 2004-2022 Free Software Foundation, Inc.  
Copyright (c) 1998 - 2010 Gilles Vollant, Even Rouault, Mathias Svensson  
Copyright 1993 Bill Triggs <Bill.Triggs@inrialpes.fr>  
Copyright (c) 1998 geoffrey keating  
Copyright (c) 2002 Ranjit Mathew  
Copyright (c) <replaceable>year</replaceable> <replaceable>name of author</replaceable>  
Copyright (c) 1991-2013 unicode, inc. all rights reserved. distributed under  
Copyright (c) d free software foundation, inc.\, 49, (const unsigned char ) &year, (sizeof (year)-1));  
Copyright (c) 2013 Miodrag Vallat. <miod@openbsd.org>  
Copyright (c) 1999 Free Software Foundation, Inc.  
Copyright (c) 2002 Free Software Foundation Contributed by Gabriel Dos Reis <gdr@integrable-solutions.net>  
Copyright (c) 2002 Free Software Foundation Contributed by Matt Austern <austern@apple.com>  
Copyright 2019 The Go Authors. All rights reserved.  
Copyright (c) 2008 Free Software Foundation, Inc.  
Copyright 2007 Free Software Foundation, Inc.  
Copyright (c) 1995-2003, 2010 Mark Adler For conditions of distribution and use, see  
Copyright 1994 Hewlett-Packard Company </blockquote>  
Copyright (c) 2023-2024 Free Software Foundation, Inc.  
Copyright (c) 2004 Free Software Foundation, Inc.  
Copyright (c) 1995, 1997, 2000, 2002, 2003 Free Software Foundation, Inc.  
Copyright (c) 2012 anthony green  
Copyright (c) 2008, 2010 Red Hat, Inc.  
Copyright (c) 2002-2013 Mark Adler, all rights reserved version 2.3, 21 Jan 2013  
Copyright (c) 2007, 2009, 2010 Red Hat, Inc.  
Copyright (c) 1995, 1996, 1997 Free Software Foundation, Inc.  
Copyright (c) 1994-1999,2002,2003,2007 Free Software Foundation, Inc.  
Copyright (c) 2009-2012 by the contributors listed in CREDITS.TXT  
copyright s 2018-2024 free software foundation, inc.  
Copyright (c) 2010 Free Software Foundation, Inc.  
Copyright (c) 1987 Regents of the University of California.  
Copyright (c) 2002 Free Software Foundation Origin: C++70  
Copyright (c) 2008 Red Hat, Inc  
Copyright (c) 2024 free software foundation, inc.  
Copyright (c) 2000 Free Software Foundation Contributed by Nathan Sidwell 22 June 2000 <nathan@codesourcery.com>  
Copyright (c) 2004 renesas technology  
Copyright (c) 2000, 2002, 2003, 2010, 2012, 2014 Free Software Foundation, Inc.  
Copyright (c) 2022 xu chenghua <xuchenghua@loongson.cn>  
Copyright (c) 1992-2024, Free Software Foundation, Inc.  
Copyright (c) 1993, 2011 by Sun Microsystems, Inc. All rights reserved.  
Copyright (c) 1996 L. Peter Deutsch  
Copyright (c) 2014 The Regents of the University of California.  
Copyright (c) 2007, 2008 Michael Kerrisk <mtk.manpages@gmail.com>  
Copyright (c) 1995-2003 by Jean-loup Gailly.  
Copyright (c) 2001 Free Software Foundation  
Copyright (c) 2021 microsoft, inc.  
Copyright (c) 2004, 2008, 2012, 2016 Mark Adler, all rights reserved For conditions of distribution and use, see  
Copyright (c) 2012, 2013 xilinx, inc  
Copyright (c) 2003, 2012 mark adler  
Copyright (c) 2008 Free Software Foundation, Inc.  
Copyright (c) 2002, 2006, 2007, 2009, 2010 Free Software Foundation, Inc.  
Copyright (c) 2002 Peter Dimov  
Copyright (c) 1998-2010 - by Gilles Vollant - version 1.1 64 bits from Mathias Svensson MiniZip  
Copyright (c) 2008 Anthony Green  
Copyright (c) 2009, 2010, 2011, 2012 ARM Ltd.  
Copyright (c) 2000, 2007 software ag  
Copyright (c) 2000, 2003 Free Software Foundation complex long long f ()  
Copyright (c) 2001, 2003, 2004 Free Software Foundation, Inc.  
Copyright (c) 1996 Red Hat, Inc.  
Copyright (c) 2015 michael knyszek <mknyszek@berkeley.edu>  
Copyright (c) 2003-2010 Free Software Foundation, Inc.  
Copyright (c) 1996-2019 Julian Seward <jseward@acm.org>  
Copyright (c) 1990 Regents of the University of California.  
Copyright (c) 2004-2024, Free Software Foundation, Inc.  
Copyright (c) 1997-2018 Free Software Foundation, Inc.  
Copyright 1995-2017 Mark Adler ; inflate9 1.2.11  
Copyright (c) 1995-2024 Free Software Foundation, Inc.  
Copyright (c) 2004, 2005 Mark Adler.  
Copyright (c) 2017-2024, Free Software Foundation, Inc.  
Copyright 2017 Mentor Graphics Corporation  
Copyright (c) 2007 Free Software Foundation.  
Copyright (c) 2011, 2018 anthony green  
Copyright (c) 2005-2024, Free Software Foundation, Inc.  
Copyright (c) 1996-1997 Silicon Graphics Computer Systems, Inc.  
Copyright (c) {:s} Free Software Foundation, Inc.  
Copyright (c) 2012, 2014, 2018 anthony green  
Copyright (c) 2021 David Malcolm <dmalcolm@redhat.com>.  
Copyright (c) 1996-2002 Julian R Seward. All rights reserved.  
Copyright (c) 2000 Free Software Foundation Contributed by Nathan Sidwell 3 July 2000 <nathan@codesourcery.com>  
Copyright (c) 2003 by Cosmin Truta.  
Copyright (c) 2005 Free Software Foundation.  
Copyright (c) 2000 Free Software Foundation, Inc.  
Copyright (c) 2022-2024 Free Software Foundation, Inc.  
Copyright (c) 2000 Free Software Foundation Contributed by Kriang Lerdsuwanakij <lerdsuwa@users.sourceforge.net>  
Copyright (c) Microsoft Corporation.  
Copyright (c) 1996-2003, 2010 Red Hat, Inc.  
Copyright (c) 1996 red hat, inc.  
Copyright (c) 2007-2024 Free Software Foundation, Inc.  
Copyright (c) 2020-2024 Free Software Foundation, Inc.  
Copyright (c) 2013 synopsys, inc. (www.synopsys.com)  
Copyright (c) 2013 tensilica, inc.  
Copyright (c) 2004, 2005, 2006, 2007 free software foundation, inc.  
Copyright 1984, 1991 by Stephen L. Moshier Adapted for glibc November, 2001  
Copyright (c) 1995-2017 Jean-loup Gailly For conditions of distribution and use, see  
Copyright (c) 1999, 2000, 2002 National Research Council of Canada.  
Copyright 1996, 1999, 2007 Free Software Foundation, Inc.  
Copyright (c) 2002, 2003, 2004 Free Software Foundation.  
Copyright (c) 1992, 1993, 1994, 1996, 2005 Free Software Foundation, Inc.  
Copyright (c) Jeremy Siek 2000. Permission to copy, use, modify, sell and distribute this software is granted provided this  
Copyright (c) 2003, 2006, 2009, 2010, 2014, 2019 Free Software Foundation, Inc.  
Copyright (c) 1995-2003, 2010, 2014, 2016 Jean-loup Gailly, Mark Adler For conditions of distribution and use, see  
Copyright (c) 2000-2024, Free Software Foundation, Inc.  
Copyright (c) 2002-2024 Free Software Foundation, Inc.  
Copyright (c) 1990-2024 Free Software Foundation, Inc.  
Copyright (c) 2012-2024 Free Software Foundation, Inc.); printf (@c  
Copyright (c) 1996-1998 Silicon Graphics Computer Systems, Inc.  
Copyright (c) 2002 Free Software Foundation Inc Contributed by Nathan Sidwell <nathan@codesourcery.com>  
Copyright 1991-2024 Free Software Foundation, Inc.  
Copyright (c) 2001, 2002 Free Software Foundation Contributed by Kriang Lerdsuwanakij <lerdsuwa@users.sourceforge.net>  
Copyright (c) 2017 anthony green  
Copyright (c) 1995,1996,1997,1998,2000,2003 Free Software Foundation, Inc.  
Copyright (c) 1991-2024 Free Software Foundation, Inc.  
Copyright (c) 1995-2006 Jean-loup Gailly.  
Copyright (c) 1990 The Regents of the University of California.  
Copyright (c) 2003, 2005, 2008, 2010, 2012 Mark Adler For conditions of distribution and use, see  
Copyright (c) 2013-2024 Free Software Foundation, Inc.\  
Copyright (c) 2003 Free Software Foundation.  
Copyright (c) 1993-2024 Free Software Foundation, Inc.  
Copyright (c) 1995-2006, 2010 Jean-loup Gailly.  
Copyright (c) 2009 Bradley Smith <brad@brad-smith.co.uk>  
Copyright (c) 1992, 1993, 1994, 1996 Free Software Foundation, Inc.  
Copyright (c) 2011 Anthony Green  
Copyright (c) 2008 David Daney  
Copyright (c) 2003, 2012, 2013 Mark Adler version 1.3, 24 Aug 2013  
Copyright (c) 2004 Ami Tavory and Vladimir Dreizin, IBM-HRL.  
Copyright 2012 The Go Authors. All rights reserved.  
Copyright (c) 2002 Free Software Foundation.  
Copyright (c) 2009-2024 Free Software Foundation, Inc. <http:fsf.org/>  
Copyright (c) 1998 Silicon Graphics Computer Systems, Inc.  
Copyright (c) 2006 Free Software Foundation.  
Copyright (c) 2000 Free Software Foundation by Alexandre Oliva <aoliva@redhat.com>  
Copyright (c) 1995, 2004 Free Software Foundation  
Copyright (c) 1998,1999,2000 by Jacques Nomssi Nzali.  
Copyright (c) 2004 Simon Posnjak  
Copyright (c) 2003, 2004, 2005, 2006, 2009, 2011, 2012, 2019 Free Software Foundation.  
Copyright (c) 2003, 2012 Mark Adler, all rights reserved version 1.2, 11 Oct 2012  
Copyright (c) 2000, 2004, 2008 Free Software Foundation, Inc.  
Copyright (c) 2000-2024 Free Software Foundation, Inc.  
Copyright 2002 Free Software Foundation Contributed by Jason Merrill <jason@redhat.com>  
Copyright (c) 2019-2024 Free Software Foundation, Inc.  
Copyright (c) 1995-2006, 2010, 2011, 2012, 2016 Mark Adler For conditions of distribution and use, see  
Copyright (c) 2005 Free Software Foundation, Inc.  
Copyright (c) 2023 Free Software Foundation, Inc.  
Copyright (c) 2007, 2009, 2010 Free Software Foundation, Inc  
Copyright (c) 2001 Free Software Foundation Contributed by Kriang Lerdsuwanakij <lerdsuwa@users.sourceforge.net>  
Copyright (c)1999 Citrus Project, All rights reserved.  
Copyright (c) 2021 The fastfloat authors  
Copyright (c) 2011-2012,2017 Qualcomm Atheros, Inc.  
Copyright (c) 2001 Free Software Foundation.  
Copyright 2000 Free Software Foundation  
Copyright (c) 2011 anthony green  
Copyright (c) 1995-2003 Mark Adler For conditions of distribution and use, see  
Copyright (c) 2014 Red Hat, Inc.  
Copyright (c) 2016-2017 Erik Stromdahl <erik.stromdahl@gmail.com>  
Copyright (c) 2009 The Go Authors. All rights reserved.  
Copyright (c) 1987-2024 Free Software Foundation, Inc.  
Copyright (c) 1997 Christian Michelsen Research AS Advanced Computing Fantoftvegen 38, 5036 BERGEN, Norway  
Copyright (c) 2018-2024 Free Software Foundation, Inc.  
Copyright (c) 2008, 2010 Free Software Foundation, Inc.  
Copyright (c) 1988 Free Software Foundation written by Doug Lea (dl@rocky.oswego.edu)  
Copyright 1998-2004 Gilles Vollant - http:www.winimage.com/zLibDll; unzip 1.01  
Copyright (c) 2017-2024 Free Software Foundation, Inc.  
Copyright (c) 2021-2024 Free Software Foundation, Inc. !  
Copyright (c) 1996 Silicon Graphics Computer Systems, Inc.  
Copyright (c) 2019 anthony green  
if i.find(Copyright (C)) > 0: outfile, n handlecopyright(outfile, lines, n, leader1, leader2)  
Copyright 2022 The Go Authors. All rights reserved.  
Copyright (c) 2007, 2008, 2012 Mark Adler Version 1.4 18 August 2012 Mark Adler  
Copyright (c) 2014-2024 Free Software Foundation, Inc. !  
Copyright (c) 1994 Hewlett-Packard Company  
Copyright (c) 2013 tensilica, inc.  
Copyright (c) 2002 Roger Sayle  
Copyright (c) 2004, 2010 Mark Adler For conditions of distribution and use, see  
Copyright (c) 2000, 2004 Free Software Foundation.  
Copyright (c) 2006–2022, the mitre corporation. cwe, cwss, cwraf, and the cwe logo are trademarks of the mitre corporation.  
Copyright (c) Henrik Ravn 2004  
Copyright (c) 1997-2024 Free Software Foundation, Inc.  
Copyright (c) 2013-2024 Free Software Foundation, Inc.  
Copyright (c) 2003 Free Software Foundation Contributed by Kriang Lerdsuwanakij <lerdsuwa@users.sourceforge.net>  
Copyright (c) 2002 Bo Thorsen  
Copyright (c) 2014-2024 Free Software Foundation, Inc.  
Copyright (c) 2012-2018 Free Software Foundation, Inc.  
Copyright (c) 2007 Free Software Foundation Contributed by Ollie Wild <aaw@google.com>  
Copyright (c) 2004 Free Software Foundation.  
Copyright (c) 2002, 2003 Free Software Foundation, Inc.  
Copyright (c) 1995,1996,1997,1998,1999,2002,2003 Free Software Foundation, Inc.  
Copyright (c) 1995-2008 Mark Adler For conditions of distribution and use, see  
Copyright (c) 2016-2024 Free Software Foundation, Inc.  
Copyright (c) 2012-2013 Free Software Foundation, Inc.  
Copyright (c) 2009-2024 by The D Language Foundation, All Rights Reserved written by Walter Bright Distributed under the Boost Software License, Version 1.0.  
Copyright (c) 2015-2024 by The D Language Foundation, All Rights Reserved written by Michel Fortin Distributed under the Boost Software License, Version 1.0.  
Copyright (c) 2014-2024, Free Software Foundation, Inc.  
Copyright (c) 2008 Red Hat, Inc.  
Copyright (c) 1995-2016 Jean-loup Gailly For conditions of distribution and use, see  
Copyright (c) 1999, 2000, 2002, 2003 Free Software Foundation, Inc.  
Copyright (c) 2000 hewlett packard company  
Copyright (c) 1999, 2001 Free Software Foundation  
Copyright (c) 2011, 2013 anthony green  
Copyright (c) 2003 Free Software Foundation Contributed by Gabriel Dos Reis <gdr@integrable-solutions.net>  
Copyright (c) 2003-2024 Free Software Foundation, Inc.  
Copyright (c) 1999 Free Software Foundation  
Copyright (c) 2011, 2016 Mark Adler For conditions of distribution and use, see  
Copyright (c) 2009-2010 Mathias Svensson ( http:result42.com )  
Copyright (c) 1997-1999, 2009 Free Software Foundation, Inc.  
Copyright (c) Microsoft Corporation. All rights reserved.  
Copyright (c) 2007-2011 Atheros Communications Inc.  
Copyright (c) 1991 by Pipeline Associates, Inc. All rights reserved.  
Copyright (c) 1998 Geoffrey Keating  
Copyright (c) 2004-2013 Free Software Foundation, Inc.  
Copyright (c) 1991-2023 Unicode, Inc. All rights reserved.\  
Copyright (c) 2010, 2011 Free Software Foundation, Inc.  
Copyright (c) 2002-2008, 2012 Kaz Kojima ffi.c  
Copyright (c) 1999, 2000 Free Software Foundation  
Copyright (c) 2011 Free Software Foundation, Inc.  
Copyright (c) 2005-2022 Free Software Foundation, Inc.  
Copyright (c) 1995-1999, 2000-2001, 2003 Free Software Foundation, Inc.  
Copyright (c) 2001 John Hornkvist  
Copyright (c) 2006-2022 Free Software Foundation, Inc.  
Copyright 2013 The Go Authors. All rights reserved.  
Copyright (c) 1998 by Bob Dellaca.  
Copyright (c) 2002 Free Software Foundation Origin: C++717  
Copyright 2001 by Stephen L. Moshier (moshier@na-net.onrl.gov).  
Copyright (c) 2022 xu chenghua <xuchenghua@loongson.cn>  
Copyright (c) 2008, 2009, 2010 Free Software Foundation, Inc.  
Copyright (c) 2008 Red Hat, Inc  
Copyright (c) 2004, 2009, 2012 Free Software Foundation, Inc.  
Copyright (c) 1995-2016 Mark Adler For conditions of distribution and use, see  
Copyright (c) 2003, 2006, 2008, 2009, 2011, 2012 Free Software Foundation, Inc.  
Copyright (c) 2020 madhavan t. venkataraman  
Copyright (c) 2013 Free Software Foundation, Inc.  
Copyright (c) 1995, 1996, 1998 Free Software Foundation, Inc.  
Copyright 2021 The Go Authors. All rights reserved.  
Copyright (c) 1995-2012 Free Software Foundation, Inc.  
Copyright (c) 2014 Regents of the University of California.  
Copyright (c) 2001, 2007 Free Software Foundation.  
Copyright (c) 2008 Free Software Foundation.  
Copyright (c) 1996, 2007, 2008, 2011 Red Hat, Inc.  
Copyright (c) 2013 ibm  
Copyright (c) 1996-2021 Anthony Green, Red Hat, Inc and others. libffi  
Copyright (c) 2001, 2002, 2003 Free Software Foundation, Inc.  
Copyright (c) 2011-2024 by The D Language Foundation, All Rights Reserved written by Walter Bright Distributed under the Boost Software License, Version 1.0.  
copyright 1992-1999, 2004 The Free Software Foundation Server Handling  
Copyright (c) 2003, 2006, 2009, 2010, 2014 Free Software Foundation, Inc.  
Copyright 2015 The Go Authors. All rights reserved.  
Copyright (c) 2008 The Open Group/The Institute of Electrical and Electronics Engineers, Inc.  
Copyright (c) 1996, 1998 red hat, inc.  
Copyright (c) 2015-2024, Free Software Foundation, Inc.  
Copyright (c) 2004 by henrik ravn)]  
Copyright 2006 Free Software Foundation  
Copyright (c) 2005 Axis Communications AB  
Copyright (c) 2019-2022 Free Software Foundation, Inc.  
Copyright 2000, 2001, 2002, 2007, 2008 Free Software Foundation, Inc https:fsf.org  
Copyright (c) 2004, 2005, 2010, 2011, 2012, 2013, 2016 Mark Adler For conditions of distribution and use, see  
Copyright 2014 The Go Authors. All rights reserved.  
Copyright 2005 Free Software Foundation contributed by Alexandre Oliva <aoliva@redhat.com>  
Copyright (c) 2015-2024 Free Software Foundation, Inc.  
Copyright (c) 2011-2024, Free Software Foundation, Inc.  
Copyright (c) 1995-2017 Mark Adler For conditions of distribution and use, see  
Copyright 2002 Free Software Foundation  
Copyright (c) 1999 Free Software Foundation  
Copyright 2020 The Go Authors. All rights reserved.  
Copyright (c) 2002, 2003 Free Software Foundation.  
Copyright (c) 2012, 2013 xilinx, inc  
Copyright (c) 2008 Red Hat, Inc.  
Copyright (c) 2003, 2005 Free Software Foundation.  
Copyright (c) 1991, 1993, 1994, 1996 Free Software Foundation, Inc.  
copyright s 2024 free software foundation, inc.  
Copyright (c) 2001 Stephen L. Moshier <moshier@na-net.ornl.gov>  
Copyright (c) 2007 Free Software Foundation, Inc.  
Copyright (c) 2007-2024 Free Software Foundation, Inc.  
Copyright (c) 2008-2024, AdaCore  
COPYRIGHT Copyright (C)  
Copyright (c) 2000, 2001 Free Software Foundation, Inc.  
Copyright (c) 2014 sebastian macke <sebastian@macke.de>  
Copyright (c) 2018 anthony green  
Copyright (c) 2001, 2003 Free Software Foundation, Inc.  
Copyright (c) 2016-2017 Free Software Foundation, Inc.  
Copyright (c) 1996-1999 Silicon Graphics Computer Systems, Inc.  
Copyright (c) 2000 Free Software Foundation Contributed by Alexandre Oliva <aoliva@cygnus.com>  
Copyright 2004 Free Software Foundation, Inc.  
Copyright (c) 2009-2022 Free Software Foundation, Inc.  
Copyright (c) 1988, 2000, 2002 Free Software Foundation written by Doug Lea (dl@rocky.oswego.edu)  
Copyright (c) 2010-2018 Free Software Foundation, Inc.  
Copyright (c) 2009-2024 Free Software Foundation, Inc.  
Copyright (c) 1995-2005, 2010 Mark Adler For conditions of distribution and use, see  
Copyright (c) 1996, 1998, 2007 Red Hat, Inc.  
Copyright (c) 2012 anthony green  
Copyright (c) 2008-2024 Free Software Foundation, Inc.  
Copyright (c) 2008-2024 </link>  
Copyright (c) 1997, 1998, 1999, 2000, 2009, 2012 Free Software Foundation, Inc.  
Copyright (c) 2001, 2002, 2003 Peter Dimov and Multi Media Ltd.  
Copyright (c) 2000, 2002, 2003 Free Software Foundation, Inc.  
Copyright (c) 2002 Free Software Foundation Origin: C++1058  
Copyright (c) 1998-2024 Free Software Foundation, Inc.  
Copyright (c) 2004-2024 Free Software Foundation, Inc.  
Copyright (c) 1997, 1998, 1999, 2000, 2001, 2002, 2004, 2009, 2012 Free Software Foundation, Inc.  
Copyright (c) 1999-2024 Free Software Foundation, Inc.  
Copyright 2002 Free Software Foundation Contributed by Jason Merrill and Alexandre Oliva  
Copyright (c) 2000, 2005 Free Software Foundation.  
Copyright (c) 2014, Intel Corp.  
Copyright 2001 by Stephen L. Moshier (moshier@na-net.ornl.gov).  
Copyright (c) 2004, 2008, 2012 Mark Adler, all rights reserved version 2.2, 14 Aug 2012  
Copyright (c) 2004-2024 Free Software Foundation, Inc.  
Copyright (c) 1995, 1996 Free Software Foundation, Inc.  
Copyright 1995-2017 Mark Adler ; inflate 1.2.11  
Copyright (c) 2019-2024, Free Software Foundation, Inc.  
Copyright (c) 2002, 2007 Bo Thorsen <bo@suse.de>  
Copyright (c) 2009 Free Software Foundation, Inc. <http:fsf.org/>  
Copyright (c) 1996,1997 Silicon Graphics Computer Systems, Inc.  
Copyright (c) 2013-2024 by The D Language Foundation, All Rights Reserved written by Iain Buclaw Distributed under the Boost Software License, Version 1.0.  
Copyright (c) 2012, 2013, 2018 anthony green  
Copyright (c) 2001-2017 Free Software Foundation, Inc.  
Copyright (c) 2003,2007 Free Software Foundation.  
Copyright (c) 2001, 2002, 2009 Free Software Foundation, Inc.  
copyright s 2024 free software foundation, inc.  
Copyright (c) 2007 Free Software Foundation.  
Copyright (c) 2000 Free Software Foundation Contributed by Alexandre Oliva <aoliva@redhat.com>  
Copyright (c) 2013-2018 Free Software Foundation, Inc.  
Copyright 2005 Free Software Foundation by Alexandre Oliva <aoliva@redhat.com>  
Copyright (c) 2002 Free Software Foundation Inc.  
Copyright (c) 2000-2024 Free Software Foundation, Inc.  
Copyright (c) <em class replaceable><code>year</code></em> <em class replaceable><code>name of author</code></em>  
Copyright (c) 2005-2024 Free Software Foundation, Inc.\  
Copyright (c) 2019 The Go Authors. All rights reserved.  
Copyright (c) 1999, 2007, 2008 red hat, inc.  
Copyright (c) 2002, 2005 Free Software Foundation.  
Copyright (c) 2019 Yoshinori Sato Based on rx.h  
Copyright (c) 2012 tilera corp.  
Copyright (c) 2012-2024 Free Software Foundation, Inc.  
Copyright 2014 The Go Authors. All rights reserved.  
Copyright (c) 2004, 2005 by Mark Adler Last modified 11 December 2005  
Copyright (c) 2010-2024 Free Software Foundation, Inc.  
Copyright 2005 Free Software Foundation, Inc.  
Copyright (c) 1990-2000 Info-ZIP. All rights reserved.  
Copyright (c) 2014 sebastian macke <sebastian@macke.de>  
Copyright (c) 2022 Free Software Foundation, Inc.  
Copyright (c) 2008-2022 Free Software Foundation, Inc.  
Copyright (c) 1991-2023 Unicode, Inc. All rights reserved.  
Copyright (c) 1995-2017 Jean-loup Gailly detectdatatype() function provided freely by Cosmin Truta, 2006 For conditions of distribution and use, see  
Copyright (c) @var @var  
Copyright (c) 2015, AdaCore  
Copyright (c) 2012 alexandre k. i. de mendonca <alexandre.keunecke@gmail.com>, paulo pizarro <paulo.pizarro@gmail.com>  
Copyright (c) 2000 Free Software Foundation Contributed by Nathan Sidwell 6 July 2000 <nathan@codesourcery.com>  
Copyright (c) 1996-2010 Julian R Seward. All rights reserved. documentation, are  
Copyright (c) 2004, 2005, 2007, 2008, 2009, 2011, 2012 Free Software Foundation, Inc.  
Copyright 1984, 1991 by Stephen L. Moshier Adapted for glibc October, 2001.  
Copyright (c) 2002-2024, Free Software Foundation, Inc.  
Copyright (c) 2007 Free Software Foundation, Inc.  
Copyright XXXX-YYYY Free Software Foundation, Inc.  
Copyright (c) 2003 Free Software Foundation  
Copyright (c) 2011-2024 Free Software Foundation, Inc. ;  
Copyright (c) 2000, 2001 Free Software Foundation.  
Copyright 1995-2017 Bruno Haible <bruno@clisp.org>  
Copyright (c) 1997, 1998, 1999, 2000, 2001, 2003, 2004, 2009 Free Software Foundation, Inc.  
Copyright (c) 2003 Free Software Foundation, Inc.  
Copyright (c) 2006 ulrich drepper <drepper@redhat.com>  
Copyright (c) 2004 Free Software Foundation  
Copyright (c) 2003, 2008 Free Software Foundation, Inc.  
Copyright 2011 The Go Authors. All rights reserved.  
Copyright (c) 1993, 1994, 1995, 1996 Free Software Foundation, Inc.  
Copyright (c) 1999, 2002 Free Software Foundation  
Copyright (c) s Free Software Foundation, Inc.  
Copyright (c) 2007, 2008 Free Software Foundation, Inc  
Copyright (c) 2005-2024 Free Software Foundation, Inc. !  
Copyright (c) 2004, 2005, 2012 Mark Adler, all rights reserved version 1.2, 14 Aug 2012  
Copyright (c) 1998 Free Software Foundation, Inc.  
copyright u2014-2024 Free Software Foundation, Inc.  
Copyright (c) 2005, 2006 Free Software Foundation, Inc.  
Copyright (c) <replaceable>year</replaceable> <replaceable>name of author</replaceable>  
Copyright (c) 1986-2024 Free Software Foundation, Inc.  
Copyright (c) 1994-2024 Free Software Foundation, Inc.  
Copyright (c) 1997-2012 Free Software Foundation, Inc.  
Copyright (c) 1992-2024 Free Software Foundation, Inc.  
Copyright (c) 2003-2010 Mark Adler  
Copyright (c) 1995-2006, 2010, 2011, 2016 Jean-loup Gailly For conditions of distribution and use, see  
Copyright (c) 2002, 2003, 2008 Free Software Foundation, Inc.  
Copyright (c) 1989 by Matthew Self.  
Copyright (c) 1999-2018 Free Software Foundation, Inc.  
Copyright (c) 2011, 2012, 2013 anthony green  
Copyright (c) 2004 Free Software Foundation Contributed by Kriang Lerdsuwanakij <lerdsuwa@users.sourceforge.net>  
Copyright (c) 2006-2024 Free Software Foundation, Inc.  
Copyright (c) 1985-2024 Free Software Foundation, Inc.  
Copyright (c) 1989 FSF.  
Copyright (c) 1996-2003, 2007, 2008 Red Hat, Inc.  
Copyright (c) 1999-2024 by The D Language Foundation, All Rights Reserved written by Walter Bright Distributed under the Boost Software License, Version 1.0.  
Copyright (c) 2006-2014 Free Software Foundation, Inc.  
Copyright (c) 2000, 2001, 2002, 2007, 2008 Free Software Foundation, Inc.  
Copyright (c) 1999-2024 by The D Language Foundation, All Rights Reserved written by Dave Fladebo Distributed under the Boost Software License, Version 1.0.  
Copyright (c) 2000, 2005 Free Software Foundation, Inc.  
Copyright (c) 2001 Free Software Foundation.  
Copyright (c) 2018-2024 Free Software Foundation, Inc. ;  
Copyright (c) 2024 Free Software Foundation, Inc.  
Copyright (c) 2013 Mentor Graphics.  
Copyright (c) 2008-2024 FSF  
Copyright (c) 1991, 1999 Free Software Foundation, Inc.  
Copyright (c) 1998-2010 Free Software Foundation, Inc.  
Copyright (c) 2013 imagination technologies ltd.  
Copyright (c) 2000 Free Software Foundation.  
Copyright (c) 1996, 1997, 1998, 1999, 2000, 2007, 2010 James Theiler, Brian Gough template<unsigned long BINS 100, unsigned long N 100000, typename Distribution, typename Pdf>  
Copyright (c) 2008 The Open Group/The Institute of Electrical and Electronics Engineers, Inc.  
Copyright 2001 by Stephen L. Moshier <moshier@na-net.ornl.gov>  
Copyright (c) 1997,1998,1999 Free Software Foundation, Inc.  
Copyright (c) 1991 The Regents of the University of California.  
Copyright (c) 1998-2010 Gilles Vollant (minizip) ( http:www.winimage.com/zLibDll/minizip.html )  
Copyright (c) 2020 Kalray  
Copyright (c) 2019-2020 Nathan Sidwell, nathan@acm.org License: Apache v2.0  
Copyright (c) 1991, 1993, 1994, 1995, 1996, 2011 Free Software Foundation, Inc.  
Copyright (c) 2005 Free Software Foundation Contributed by Kriang Lerdsuwanakij <lerdsuwa@users.sourceforge.net>  
Copyright (c) 2007-2022 Free Software Foundation, Inc.  
Copyright (c) 2000, 2001 Free Software Foundation.  
Copyright (c) 2003-2004, 2006, 2009-2017 Free Software Foundation, Inc.  
Copyright (c) 2004, 2005 Free Software Foundation.  
Copyright (c) 2000, 2001, 2003 Free Software Foundation.  
Copyright (c) 2001 Free Software Foundation.  
Copyright (c) Henrik Ravn 2004  
Copyright (c) 2004-2020 Free Software Foundation, Inc.  
Copyright (c) 1999 The C++ Programming Language, Special Edition Addison Wesley Standard C++ IOStreams and Locales </em>. </span><span class subtitle>  
Copyright 2023 The Go Authors. All rights reserved.  
Copyright (c) 2000, 2001, 2003, 2004 Free Software Foundation.  
Copyright (c) 2021, Free Software Foundation, Inc.  
Copyright (c) 1995-2015 Free Software Foundation, Inc.  
Copyright (c) 2011 University of Illinois at Urbana-Champaign. All rights reserved.  
Copyright (c) 1998, 2007, 2008, 2012 red hat, inc.  
Copyright (c) 2022 David Malcolm <dmalcolm@redhat.com>.  
Copyright Digital Mars 2010 - 2010.  
Copyright (c) 2003, 2012, 2013 Mark Adler For conditions of distribution and use, see  
Copyright (c) 2003 Chris Anderson <christop@charm.net>  
Copyright (c) 2001-2024, Free Software Foundation, Inc.  
Copyright 2018 The Go Authors. All rights reserved.  
Copyright 2009 The Go Authors. All rights reserved.  
Copyright (c) 2019-2024 Free Software Foundation, Inc. ;;  
Copyright (c) 2001, 2002, 2003 Peter Dimov  
Copyright (c) 2012, 2013 anthony green target configuration macros for moxie  
Copyright (c) 2000, 2001, 2003 Free Software Foundation, Inc.  
Copyright (c) 1996-2004 Red Hat, Inc.  
Copyright (c) 2005, 2008, Michael Kerrisk <mtk.manpages@gmail.com>  
Copyright (c) 1994,95,96,97,98,99,2002,2003 Free Software Foundation, Inc.  
Copyright (c) 2009 Free Software Foundation.  
Copyright (c) 2013 imagination technologies  
Copyright 2001 Free Software Foundation Contributed by Alexandre Oliva <aoliva@redhat.com>  
Copyright (c) 2021-2024 Free Software Foundation, Inc.  
Copyright (c) 1995, 1996, 1999 Free Software Foundation, Inc.  
Copyright (c) 1998 Geoffrey Keating  
Copyright (c) 2016 Free Software Foundation, Inc.  
Copyright (c) 2005 Free Software Foundation.  
Copyright (c) 2002 Free Software Foundation Contributed by Kriang Lerdsuwanakij <lerdsuwa@users.sourceforge.net>  
Copyright (c) 1995-2016 Jean-loup Gailly, Mark Adler For conditions of distribution and use, see  
Copyright (c) 2003-2024, Free Software Foundation, Inc.  
Copyright (c) 2000, 2003 Free Software Foundation, Inc.  
Copyright (c) 1999-2024, Free Software Foundation, Inc.  
Copyright (c) 2010-2024, Free Software Foundation, Inc.  
Copyright (c) 2010-2019 Free Software Foundation, Inc.  
Copyright (c) 2014 red hat, inc.  
Copyright (c) 1999, 2000, 2003 Free Software Foundation, Inc.  
Copyright (c) 2006 Free Software Foundation Inc.  
Copyright (c) 2011, 2012, 2021 anthony green  
Copyright (c) 2020-2024 Free Software Foundation, Inc.  
Copyright (c) 1999 Free Software Foundation by Alexandre Oliva <oliva@lsd.ic.unicamp.br>  
Copyright 2017 The Go Authors. All rights reserved.  
Copyright (c) 2000, 2001, 2002, 2007, 2008 </simpara>  
Copyright (c) 1998, 1999 Greg Colvin and Beman Dawes.  
Copyright (c) 2012 alexandre k. i. de mendonca <alexandre.keunecke@gmail.com>  
Copyright (c) 2002-2013 Mark Adler For conditions of distribution and use, see  
Copyright (c) 1992-2008, Free Software Foundation, Inc.  
Copyright (c) 2014-2020 Advanced Micro Devices Inc. All rights reserved.  
Copyright (c) 2012 anthony green  
Copyright (c) 2013-2014 Free Software Foundation, Inc.  
Copyright (c) 2011 timothy wall  
Copyright (c) 2007-2023 Free Software Foundation, Inc.  
Copyright (c) 2009 <link xmlns:xlink http:www.w3.org/1999/xlink xlink:href https:www.fsf.org>Free Software Foundation, Inc.</link>  
Copyright (c) 2000 Free Software Foundation Adapted by Nathan Sidwell 1 July 2000 <nathan@codesourcery.com>  
Copyright (c) 1996, 1998, 1999, 2001, 2007, 2008 Red Hat, Inc.  
Copyright (c) 1994, 1996, 1999 Free Software Foundation, Inc.  
Copyright 2016 The Go Authors. All rights reserved.  
Copyright (c) 2021 Free Software Foundation.  
copyright s 2024 free software foundation, inc.  
Copyright (c) 2019 Free Software Foundation, Inc.  
Copyright 2002 Free Software Foundation, Inc.  
Copyright (c) 1996-2024 Free Software Foundation, Inc.  
Copyright (c) 2004-2017 Mark Adler For conditions of distribution and use, see  
Copyright (c) 1993 by Sun Microsystems, Inc. All rights reserved.  
Copyright (c) 2003 Free Software Foundation Inc.  
Copyright (c) 2000 Free Software Foundation  
Copyright (c) 1999, 2000, 2002 Free Software Foundation  
Copyright (c) 2003, 2006 Free Software Foundation.  
Copyright (c) 2003-2024 Free Software Foundation, Inc.\  
Copyright 2007 Free Software Foundation Contributed by Andreas Krebbel <Andreas.Krebbel@de.ibm.com>  
Copyright (c) 1995, 1997, 2000 Free Software Foundation, Inc.  
Copyright (c) 1995-2005, 2014, 2016 Jean-loup Gailly, Mark Adler For conditions of distribution and use, see  
Copyright (c) 1989, 1991 Free Software Foundation, Inc.  
Copyright (c) 2011, 2014, 2019, 2021 anthony green  
Copyright (c) 2017-2024 by The D Language Foundation, All Rights Reserved written by Walter Bright Distributed under the Boost Software License, Version 1.0.  
Copyright (c) 2003, 2004 Free Software Foundation.  
copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.  
Copyright (c) 2013 The Written Word, Inc.  
Copyright (c) 1994-2024 Free Software Foundation, Inc.  
Copyright (c) 1996-2010 Julian Seward <jseward@bzip.org>  
Copyright (c) 2009 Canonical, Ltd.

**License:** GPLv3+ and GPLv3+ with exceptions and GPLv2+ with exceptions and LGPLv2+ and BSD

GNU GENERAL PUBLIC LICENSE  
Version 3, 29 June 2007  
  
Copyright ? 2007 Free Software Foundation, Inc. <https://fsf.org/>  
  
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.  
  
Preamble  
The GNU General Public License is a free, copyleft license for software and other kinds of works.  
  
The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program--to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.  
  
When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.  
  
To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.  
  
For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.  
  
Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.  
  
For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.  
  
Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.  
  
Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.  
  
The precise terms and conditions for copying, distribution and modification follow.  
  
TERMS AND CONDITIONS  
0. Definitions.  
“This License” refers to version 3 of the GNU General Public License.  
  
“Copyright” also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.  
  
“The Program” refers to any copyrightable work licensed under this License. Each licensee is addressed as “you”. “Licensees” and “recipients” may be individuals or organizations.  
  
To “modify” a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a “modified version” of the earlier work or a work “based on” the earlier work.  
  
A “covered work” means either the unmodified Program or a work based on the Program.  
  
To “propagate” a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.  
  
To “convey” a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.  
  
An interactive user interface displays “Appropriate Legal Notices” to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.  
  
1. Source Code.  
The “source code” for a work means the preferred form of the work for making modifications to it. “Object code” means any non-source form of a work.  
  
A “Standard Interface” means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.  
  
The “System Libraries” of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A “Major Component”, in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.  
  
The “Corresponding Source” for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.  
  
The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.  
  
The Corresponding Source for a work in source code form is that same work.  
  
2. Basic Permissions.  
All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.  
  
You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.  
  
Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.  
  
3. Protecting Users' Legal Rights From Anti-Circumvention Law.  
No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.  
  
When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.  
  
4. Conveying Verbatim Copies.  
You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.  
  
You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.  
  
5. Conveying Modified Source Versions.  
You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:  
  
a) The work must carry prominent notices stating that you modified it, and giving a relevant date.  
b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to “keep intact all notices”.  
c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.  
d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.  
A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an “aggregate” if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.  
  
6. Conveying Non-Source Forms.  
You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:  
  
a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.  
b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.  
c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.  
d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.  
e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.  
A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.  
  
A “User Product” is either (1) a “consumer product”, which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, “normally used” refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.  
  
“Installation Information” for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.  
  
If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).  
  
The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.  
  
Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.  
  
7. Additional Terms.  
“Additional permissions” are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.  
  
When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.  
  
Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:  
  
a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or  
b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or  
c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or  
d) Limiting the use for publicity purposes of names of licensors or authors of the material; or  
e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or  
f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.  
All other non-permissive additional terms are considered “further restrictions” within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.  
  
If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.  
  
Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.  
  
8. Termination.  
You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).  
  
However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.  
  
Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.  
  
Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.  
  
9. Acceptance Not Required for Having Copies.  
You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.  
  
10. Automatic Licensing of Downstream Recipients.  
Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.  
  
An “entity transaction” is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.  
  
You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.  
  
11. Patents.  
A “contributor” is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's “contributor version”.  
  
A contributor's “essential patent claims” are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, “control” includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.  
  
Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.  
  
In the following three paragraphs, a “patent license” is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To “grant” such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.  
  
If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. “Knowingly relying” means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.  
  
If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.  
  
A patent license is “discriminatory” if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.  
  
Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.  
  
12. No Surrender of Others' Freedom.  
If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.  
  
13. Use with the GNU Affero General Public License.  
Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.  
  
14. Revised Versions of this License.  
The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.  
  
Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License “or any later version” applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.  
  
If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.  
  
Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.  
  
15. Disclaimer of Warranty.  
THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM “AS IS” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.  
  
16. Limitation of Liability.  
IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.  
  
17. Interpretation of Sections 15 and 16.  
If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.  
  
END OF TERMS AND CONDITIONS  
  
How to Apply These Terms to Your New Programs  
If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.  
  
To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the “copyright” line and a pointer to where the full notice is found.  
  
 <one line to give the program's name and a brief idea of what it does.>  
 Copyright (C) <year> <name of author>  
  
 This program is free software: you can redistribute it and/or modify  
 it under the terms of the GNU General Public License as published by  
 the Free Software Foundation, either version 3 of the License, or  
 (at your option) any later version.  
  
 This program is distributed in the hope that it will be useful,  
 but WITHOUT ANY WARRANTY; without even the implied warranty of  
 MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the  
 GNU General Public License for more details.  
  
 You should have received a copy of the GNU General Public License  
 along with this program. If not, see <https://www.gnu.org/licenses/>.  
Also add information on how to contact you by electronic and paper mail.  
  
If the program does terminal interaction, make it output a short notice like this when it starts in an interactive mode:  
  
 <program> Copyright (C) <year> <name of author>  
 This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.  
 This is free software, and you are welcome to redistribute it  
 under certain conditions; type `show c' for details.  
The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, your program's commands might be different; for a GUI interface, you would use an “about box”.  
  
You should also get your employer (if you work as a programmer) or school, if any, to sign a “copyright disclaimer” for the program, if necessary. For more information on this, and how to apply and follow the GNU GPL, see <https://www.gnu.org/licenses/>.  
  
The GNU General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License. But first, please read <https://www.gnu.org/licenses/why-not-lgpl.html>.  
  
?insert GPL v3 text here  
  
GCC RUNTIME LIBRARY EXCEPTION  
  
Version 3.1, 31 March 2009  
  
General information: http://www.gnu.org/licenses/gcc-exception.html  
  
  
Copyright (C) 2009 Free Software Foundation, Inc. <http://fsf.org/>  
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.  
This GCC Runtime Library Exception ("Exception") is an additional permission under section 7 of the GNU General Public License, version 3 ("GPLv3"). It applies to a given file (the "Runtime Library") that bears a notice placed by the copyright holder of the file stating that the file is governed by GPLv3 along with this Exception.  
  
When you use GCC to compile a program, GCC may combine portions of certain GCC header files and runtime libraries with the compiled program. The purpose of this Exception is to allow compilation of non-GPL (including proprietary) programs to use, in this way, the header files and runtime libraries covered by this Exception.  
  
0. Definitions.  
A file is an "Independent Module" if it either requires the Runtime Library for execution after a Compilation Process, or makes use of an interface provided by the Runtime Library, but is not otherwise based on the Runtime Library.  
  
"GCC" means a version of the GNU Compiler Collection, with or without modifications, governed by version 3 (or a specified later version) of the GNU General Public License (GPL) with the option of using any subsequent versions published by the FSF.  
  
"GPL-compatible Software" is software whose conditions of propagation, modification and use would permit combination with GCC in accord with the license of GCC.  
  
"Target Code" refers to output from any compiler for a real or virtual target processor architecture, in executable form or suitable for input to an assembler, loader, linker and/or execution phase. Notwithstanding that, Target Code does not include data in any format that is used as a compiler intermediate representation, or used for producing a compiler intermediate representation.  
  
The "Compilation Process" transforms code entirely represented in non-intermediate languages designed for human-written code, and/or in Java Virtual Machine byte code, into Target Code. Thus, for example, use of source code generators and preprocessors need not be considered part of the Compilation Process, since the Compilation Process can be understood as starting with the output of the generators or preprocessors.  
  
A Compilation Process is "Eligible" if it is done using GCC, alone or with other GPL-compatible software, or if it is done without using any work based on GCC. For example, using non-GPL-compatible Software to optimize any GCC intermediate representations would not qualify as an Eligible Compilation Process.  
  
1. Grant of Additional Permission.  
You have permission to propagate a work of Target Code formed by combining the Runtime Library with Independent Modules, even if such propagation would otherwise violate the terms of GPLv3, provided that all Target Code was generated by Eligible Compilation Processes. You may then convey such a combination under terms of your choice, consistent with the licensing of the Independent Modules.  
  
2. No Weakening of GCC Copyleft.  
The availability of this Exception does not imply any general presumption that third-party software is unaffected by the copyleft requirements of the license of GCC.  
  
  
  
GNU LIBRARY GENERAL PUBLIC LICENSE  
  
Version 2, June 1991  
  
Copyright (C) 1991 Free Software Foundation, Inc.  
51 Franklin St, Fifth Floor, Boston, MA 02110-1301, USA  
  
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.  
  
[This is the first released version of the library GPL. It is numbered 2 because it goes with version 2 of the ordinary GPL.]  
  
Preamble  
  
The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.  
  
This license, the Library General Public License, applies to some specially designated Free Software Foundation software, and to any other libraries whose authors decide to use it. You can use it for your libraries, too.  
  
When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.  
  
To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library, or if you modify it.  
  
For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link a program with the library, you must provide complete object files to the recipients so that they can relink them with the library, after making changes to the library and recompiling it. And you must show them these terms so they know their rights.  
  
Our method of protecting your rights has two steps: (1) copyright the library, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the library.  
  
Also, for each distributor's protection, we want to make certain that everyone understands that there is no warranty for this free library. If the library is modified by someone else and passed on, we want its recipients to know that what they have is not the original version, so that any problems introduced by others will not reflect on the original authors' reputations.  
  
Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that companies distributing free software will individually obtain patent licenses, thus in effect transforming the program into proprietary software. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.  
  
Most GNU software, including some libraries, is covered by the ordinary GNU General Public License, which was designed for utility programs. This license, the GNU Library General Public License, applies to certain designated libraries. This license is quite different from the ordinary one; be sure to read it in full, and don't assume that anything in it is the same as in the ordinary license.  
  
The reason we have a separate public license for some libraries is that they blur the distinction we usually make between modifying or adding to a program and simply using it. Linking a program with a library, without changing the library, is in some sense simply using the library, and is analogous to running a utility program or application program. However, in a textual and legal sense, the linked executable is a combined work, a derivative of the original library, and the ordinary General Public License treats it as such.  
  
Because of this blurred distinction, using the ordinary General Public License for libraries did not effectively promote software sharing, because most developers did not use the libraries. We concluded that weaker conditions might promote sharing better.  
  
However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them. (We have not seen how to achieve this as regards changes in header files, but we have achieved it as regards changes in the actual functions of the Library.) The hope is that this will lead to faster development of free libraries.  
  
The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, while the latter only works together with the library.  
  
Note that it is possible for a library to be covered by the ordinary General Public License rather than by this special one.  
  
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION  
  
0. This License Agreement applies to any software library which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Library General Public License (also called "this License"). Each licensee is addressed as "you".  
A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.  
  
The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)  
  
"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.  
  
Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.  
  
1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.  
You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.  
  
2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:  
a) The modified work must itself be a software library.  
b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.  
c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.  
d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.  
(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)  
  
These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.  
  
Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.  
  
In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.  
  
3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.  
Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.  
  
This option is useful when you wish to copy part of the code of the Library into a program that is not a library.  
  
4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.  
If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.  
  
5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.  
However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.  
  
When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.  
  
If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)  
  
Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.  
  
6. As an exception to the Sections above, you may also compile or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.  
You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:  
  
a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)  
b) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.  
c) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.  
d) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.  
For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.  
  
It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.  
  
7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:  
a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.  
b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.  
8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.  
9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.  
10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.  
11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.  
If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.  
  
It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.  
  
This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.  
  
12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.  
13. The Free Software Foundation may publish revised and/or new versions of the Library General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.  
Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.  
  
14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.  
NO WARRANTY  
  
15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.  
16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.  
END OF TERMS AND CONDITIONS  
  
How to Apply These Terms to Your New Libraries  
  
If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).  
  
To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.  
  
one line to give the library's name and an idea of what it does.  
Copyright (C) year name of author  
  
This library is free software; you can redistribute it and/or modify it under the terms of the GNU Library General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.  
  
This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Library General Public License for more details.  
  
You should have received a copy of the GNU Library General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301, USA.  
  
Also add information on how to contact you by electronic and paper mail.  
  
You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:  
  
Yoyodyne, Inc., hereby disclaims all copyright interest in  
the library `Frob' (a library for tweaking knobs) written  
by James Random Hacker.  
  
signature of Ty Coon, 1 April 1990  
Ty Coon, President of Vice  
  
That's all there is to it!  
  
BSD Zero Clause License  
Copyright (C) 2006 by Rob Landley <rob@landley.net>  
  
Permission to use, copy, modify, and/or distribute this software for any purpose with or without fee is hereby granted.  
  
THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

**Written Offer**

This openEuler distribution may contain certain software whose rights holders license it on the terms of the GNU General Public License, version 2 (GPLv2) or other open source software licenses which require us to release corresponding source code. We will provide you and any third party with corresponding source code required under applicable open source software license through the repository: https://gitee.com/src-openeuler/. You can access and obtain corresponding source code by searching the aforementioned repository using package name and tag.

This offer is valid to anyone in receipt of this information.

**THIS OFFER IS VALID FOR THREE YEARS FROM THE MOMENT WE DISTRIBUTED THIS OPENEULER DISTRIBUTION .**