**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: dpdk 23.11

**Copyright notice:**

Copyright (c) 2009, Olivier MATZ <zer0@droids-corp.org>  
Copyright(c) 2015-2020 Beijing WangXun Technology Co., Ltd.  
Copyright(c) 2019-2020 Microsoft Corporation  
Copyright 2008-2017 Cisco Systems, Inc. All rights reserved.  
Copyright(c) 2017-2021 Semihalf.  
Copyright 2008-2012 Freescale Semiconductor Inc.  
Copyright 2016 NXP  
Copyright 2010-2012 Freescale Semiconductor, Inc.  
Copyright (c) 2017-2018 Solarflare Communications Inc.  
Copyright(c) 2020 Red Hat Inc.  
Copyright(c) 2022 Loongson Technology Corporation Limited  
Copyright(c) 2021-2022 Intel Corporation  
Copyright(c) 2020-2023 Intel Corporation  
Copyright (c) 2009-2012,2016 Microsoft Corp.  
Copyright(c) 2020-2023 Broadcom All rights reserved.  
Copyright(c) 2017 Cavium, Inc  
Copyright(c) 2018-2020 Intel Corporation  
Copyright (c) 2020 Marvell Semiconductor Inc.  
Copyright(c) 2017 6WIND S.A.  
Copyright (C) IBM Corporation 2019.  
Copyright (c) 2018 Microsoft Corp.  
Copyright(c) 2022 Intel Corporation SFF-8636 standards based QSFP EEPROM Field Definitions  
Copyright 2016,2018-2021 NXP  
Copyright(c) 2014-2023 Broadcom All rights reserved.  
Copyright(c) 2017 NXP.  
Copyright(c) 2020 Chelsio Communications.  
Copyright 2013-2016 Freescale Semiconductor Inc.  
Copyright(c) 2022 SmartShare Systems  
Copyright (C) IBM Corporation 2014,2021  
Copyright (C) 1991, 1999 Free Software Foundation, Inc.  
Copyright(c) 2022-2023 PANTHEON.tech s.r.o.  
Copyright(c) 2010-2013 Intel Corporation.  
Copyright(c) 2012-2014 6WIND S.A.  
Copyright (C) 2015-2016 Freescale Semiconductor,Inc.  
Copyright(c) 2021 Mellanox Technologies, Ltd  
Copyright(c) 2022, Marvell  
Copyright 2018-2022 NXP  
Copyright (c) 2016 - 2018 Cavium Inc.  
Copyright(c) 2023 Intel Corporation  
Copyright(c) 2017 Marvell International Ltd.  
Copyright 2008-2019 Cisco Systems, Inc. All rights reserved.  
Copyright(c) 2016 Intel Corporation.  
Copyright(c) 2019-2023 Broadcom All rights reserved.  
Copyright(c) 2019 Advanced Micro Devices, Inc. All rights reserved.  
Copyright 2016,2019-2022 NXP  
Copyright(c) 2016-2017 Intel Corporation  
Copyright(c) 2019 Intel Corporation.  
Copyright(c) 2021-2023 Intel Corporation  
Copyright(c) 2020 Intel Corporation  
Copyright (c) 2010 Jonathan Armani <armani@openbsd.org>  
Copyright 2012 Mellanox Technologies, Ltd  
Copyright(c) 2022 Intel Corporation  
Copyright (c) 2010 Fabien Romano <fabien@openbsd.org>  
Copyright (c) 2022 Red Hat, Inc.  
Copyright 2017 6WIND S.A.  
Copyright 2019 NXP  
Copyright(c) 2018 Red Hat Corp.  
Copyright(c) 2020 Broadcom All rights reserved.  
Copyright(c) 2022 PANTHEON.tech s.r.o.  
Copyright(c) 2022 Robin Jarry pylint: disable=invalid-name  
Copyright 2018, 2021 NXP  
Copyright(c) 2019-2021 Broadcom All rights reserved.  
Copyright 2017-2022 Advanced Micro Devices, Inc.  
Copyright(c) 2021 HiSilicon Limited  
Copyright 2017-2022 NXP  
Copyright 2017,2021 NXP  
Copyright (c) 2007-2013 Broadcom Corporation.  
Copyright(c) 2021 Microsoft Corporation  
Copyright 2007 Nuova Systems, Inc. All rights reserved.  
Copyright(c) 2010-2018 Intel Corporation  
Copyright (C) 2006-2012 Toni Ronkko  
Copyright(c) 2010-2023 Intel Corporation  
Copyright(c) 2015-2016 Intel Corporation  
Copyright (C) 2023 Marvell International Ltd.  
Small portions derived from code Copyright(c) 2010-2015 Intel Corporation.  
Copyright(c) 2023 AMD Corporation  
Copyright (c) 2021 IBM Corporation  
Copyright(c) 2014 John W. Linville <linville@tuxdriver.com>  
Copyright 2016,2019,2023 NXP  
Copyright(c) 2021 Arm Limited  
Copyright(c) 2020 Inspur Corporation  
Copyright(c) 2019 Arm Limited  
Copyright(c) 2015-2021 Intel Corporation  
Copyright (c) 2020 Microsoft Corporation Script to query and setup huge pages for DPDK applications.  
Copyright(C) 2020 Marvell International Ltd.  
Copyright 2017 Mellanox Technologies, Ltd  
Copyright(c) 2020 Red Hat, Inc.  
Copyright (c) 2019-2020 Arm Limited  
Copyright(c) 2010-2022 Intel Corporation  
Copyright(c) 2013-2015 Intel Corporation  
Copyright (c) 2020 Red Hat, Inc.  
Copyright 2017-2020 NXP  
Copyright 2021-2022 NXP  
Copyright (c) 2022-2023 Intel Corporation  
Copyright(c) 2018 Chelsio Communications.  
Copyright (c) 2020 Dmitry Kozlyuk  
Copyright(c) 2010-2016 Intel Corporation  
Copyright (c) 1987, 1991, 1993 The Regents of the University of California. All rights reserved.  
Copyright(c) 2018-2021 HiSilicon Limited.  
Copyright(c) 2017-2020 Intel Corporation.  
Copyright(c) 2017 Semihalf.  
Copyright(c) 2017-2021 Intel Corporation  
Copyright(c) 2022 Semihalf All rights reserved.  
Copyright (C) 2015-2022 Google, Inc.  
Copyright(c) 2010-2018 Intel Corporation.  
Copyright(c) 2022 Intel Corporation  
Copyright (c) 2017 Cavium, Inc.  
Copyright 2017-2019,2021 NXP  
Copyright(c) 2021 Red Hat, Inc.  
Copyright (c) 2016 - 2020 Cavium Inc.  
Copyright(c) 2023 Marvell.  
Copyright 2015-2016 Intel Corporation.  
Copyright(c) 2010-2015 Intel Corporation.  
Copyright (c) 2019 Intel Corporation  
(c) 2022 Dmitry Kozlyuk <dmitry.kozliuk@gmail.com>  
Copyright 2012 6WIND S.A.  
Copyright(c) Hannes Frederic Sowa All rights reserved.  
Copyright 2010-2016 Freescale Semiconductor Inc.  
Copyright (C) 2021 Marvell International Ltd.  
Copyright(c) 2015 Cavium, Inc.  
Copyright (c) 2002 Todd C. Miller <Todd.Miller@courtesan.com>  
Copyright 2011-2016 Freescale Semiconductor Inc.  
Copyright(c) 2019 Solarflare Communications Inc.  
Copyright(c) 2008-2019 Solarflare Communications Inc.  
Copyright(C) 2019 Marvell International Ltd.  
Copyright 2018 Red Hat, Inc.  
Copyright (c) 2021 Microsoft Corporation This script checks if the system supports huge pages  
Copyright (c) 2019 Cavium Inc.  
Copyright 2015 Mellanox Technologies, Ltd  
Copyright(c) 2016 RehiveTech. All rights reserved.  
Copyright(c) 2019-2021 Xilinx, Inc.  
Copyright(c) 2023 HiSilicon Limited  
Copyright(c) 2018-2021 Intel Corporation  
Copyright(c) 2016-2019 Intel Corporation  
Copyright 2016,2020-2023 NXP  
Copyright(C) 2022 Marvell.  
Copyright (C) 2019 Marvell International Ltd.  
Copyright(c) 2015-2019 Intel Corporation  
Copyright(c) 2015-2018 Intel Corporation  
Copyright(c) 2014 IBM Corporation  
Copyright 2009-2012 Freescale Semiconductor Inc.  
Copyright (c) 2014-2021 Netronome Systems, Inc.  
Copyright(c) 2022 Intel Corporation Implements SFF-8079 optics diagnostics.  
Copyright(c) 2018 Solarflare Communications Inc.  
Copyright (C) 2014-2017 aQuantia Corporation.  
Copyright 2016-2022 NXP  
Copyright(c) 2017 Cavium, Inc. All rights reserved.  
Copyright(c) 2021 Intel Corporation  
Copyright(c) 2020 Dmitry Kozlyuk  
Copyright(c) 2022 Intel Corporation.  
Copyright (c) 2012 NetApp Inc.  
Copyright (c) 2010 Michael Knudsen <mk@openbsd.org>  
Copyright 2008-2012 Freescale Semiconductor, Inc.  
Copyright (c) 2001 David E. OBrien  
Copyright(c) 2017-2021 Marvell International Ltd.  
Copyright 2013 6WIND S.A.  
Copyright(c) 2021 Microsoft Corp.  
Copyright(c) 2016-2018 Microsoft Corporation  
Copyright(c) 2020 Intel Corporation.  
Copyright 2019 Mellanox Technologies, Ltd  
Copyright 2018-2022 Advanced Micro Devices, Inc.  
Copyright(c) 2018-2019 Solarflare Communications Inc.  
Copyright(c) 2018 Aquantia Corporation  
Copyright 2008-2016 Freescale Semiconductor Inc.  
Copyright(c) 2015-2020 Intel Corporation.  
Copyright 2016 NXP All rights reserved.  
Copyright 2017,2019-2020 NXP  
Copyright (c) 2013-2015 Brocade Communications Systems, Inc.  
Copyright (c) 2020 Arm Limited  
Copyright(c) 2017-2018 Linaro Limited.  
Copyright 2016-2023 NXP  
Copyright(c) 2017 Cavium.  
Copyright (c) 2022 NVIDIA Corporation & Affiliates  
Copyright (C) 2022 Microsoft Corporation  
Copyright(c) 2006-2019 Solarflare Communications Inc.  
Copyright(c) 2010-2015 Intel Corporation  
Copyright(c) 2021 Marvell.  
Copyright 2018 6WIND S.A.  
Copyright(c) 2012,2013 Intel Corporation  
Copyright (c) 2009-2018 Microsoft Corp.  
Copyright 2016 6WIND S.A.  
Copyright (c) 2021 PANTHEON.tech s.r.o.  
Copyright 2013-2017 6WIND S.A.  
Copyright (c) 2017 Cavium Inc.  
Copyright(c) 2023 University of New Hampshire  
Copyright 2017 Intel Corporation  
Copyright (c) 2017,2018 HXT-semitech Corporation.  
Copyright 2011-2015 Samy Al Bahra.  
Copyright(c) 2015-2019 Solarflare Communications Inc.  
Copyright (C) 1996, 1997 Theodore Tso.  
Copyright(c) 2022 Marvell.  
Copyright(c) 2015 Intel Corporation  
Copyright(c) 2010-2017 Intel Corporation  
Copyright 2019-2021 NXP  
Copyright (c) 2021 Marvell.  
Copyright 2021 Intel Corporation  
Copyright(c) 2022 Semihalf  
Copyright 2009-2016 Freescale Semiconductor Inc.  
Copyright(c) 2017 Wind River Systems, Inc.  
Copyright (c) 2016 Neil Horman <nhorman@tuxdriver.com>  
Copyright (C) IBM Corporation 2014.  
Copyright(c) 2018 - 2019 Intel Corporation  
Copyright 2020 Intel Corporation  
Copyright(c) 2018 Neil Horman <nhorman@tuxdriver.com>  
Copyright (C) Cavium, Inc. 2015.  
Copyright(c) 2021 Marvell International Ltd  
Copyright 2008-2012 Freescale Semiconductor, Inc  
Copyright 2017,2020-2021 NXP  
Copyright(c) 2010-2021 Intel Corporation  
Copyright(c) 2014-2019 Solarflare Communications Inc.  
Copyright (c) 2019 Intel Corporation All rights reserved.  
Copyright 2021 6WIND S.A.  
Copyright(c) 2020 Arm Corporation  
Copyright (C) 2020 Marvell International Ltd.  
Copyright(c) 2018 Ericsson AB  
Copyright (c) 2022-2023 Google LLC  
Copyright(c) 2022 Red Hat, Inc.  
Copyright (c) 2022 Marvell.  
Copyright (c) 2023 Corigine Systems, Inc.  
Copyright(C) 2020 Broadcom.  
Copyright 2018-2021 NXP  
Copyright (c) 2010-2012 Citrix Inc.  
Copyright(c) 2014-2018 Chelsio Communications.  
Copyright(c) 2010-2014 Intel Corporation.  
Copyright(c) 2012-2019 Solarflare Communications Inc.  
Copyright(c) 2022 Arm Limited  
Copyright(c) 2017-2018 Linaro Limited  
Copyright (c) 2023 Red Hat, Inc.  
Copyright (C) 2007 VMware, Inc. All rights reserved.  
Copyright 2019-2023 NXP  
Copyright(c) 2017 Intel Corporation.  
Copyright (C) Mellanox 2020.  
Copyright 2017,2019-2022 NXP  
Copyright(c) 2018-2021 Beijing WangXun Technology Co., Ltd.  
Copyright 2014 6WIND S.A.  
Copyright(c) 2020 Intel Corporation  
Copyright 2008-2013 Freescale Semiconductor, Inc.  
Copyright(C) 2023 Marvell International Ltd.  
Copyright (c) 2017 Red Hat, Inc.  
Copyright 2016-2020 NXP  
Copyright (C) 2017 Tobias Klauser  
Copyright(c) 2018-2019 Arm Limited  
Copyright(c) 2015 Akamai Technologies.  
Copyright (c) 2023 Advanced Micro Devices, Inc.  
Copyright(c) 2015-2023 Intel Corporation  
Copyright(c) 2017-2022 Intel Corporation  
Copyright(c) 2013 6WIND S.A.  
Copyright(c) 2022 Intel Corporation Implements SFF-8636 based QSFP+/QSFP28 Diagnostics Memory map.  
Copyright(c) 2016-2019 Solarflare Communications Inc.  
Copyright(c) 2015 Cavium, Inc  
Copyright(c) 2022 SiFive  
Copyright 2015-2020 NXP  
Copyright (c) 2021 Arm Limited All rights reserved.  
Copyright(c) 2017-2019 Solarflare Communications Inc.  
Copyright 2022-2023 Huawei Technologies Co.,Ltd. All rights reserved.  
Copyright(c) 2018-2022 Intel Corporation  
Copyright(C) 2022 HiSilicon Limited  
Copyright (c) 2018-2020 Arm Limited  
Copyright(C) 2022 Marvell International Ltd.  
Copyright(c) 2019-2020 Intel Corporation.  
Copyright(c) 2023 HiSilicon Limited.  
Copyright(c) 2013-2016 Intel Corporation  
Copyright 2016, 2019, 2023 NXP  
define DRVCOPYRIGHT Copyright 2008-2015 Cisco Systems, Inc  
Copyright (C) 2022-2023, Advanced Micro Devices, Inc.  
Copyright(c) 2013-2016 Brocade Communications Systems, Inc.  
Copyright(c) 2015-2022 Intel Corporation  
Copyright(c) 2015 RehiveTech. All rights reserved.  
Copyright(c) 2015 Neil Horman <nhorman@tuxdriver.com>.  
Copyright 2020 NXP  
Copyright 2013-2014 6WIND S.A.  
Copyright(c) 2013 - 2015 Intel Corporation  
Copyright (c) 2022 Corigine, Inc.  
Copyright 2020 Microsoft Corporation  
Copyright(c) 2010-2020 Intel Corporation  
Copyright(c) 2019-2021 Intel Corporation  
Copyright 2017,2019 NXP  
Copyright 2022 Mellanox Technologies, Ltd  
Copyright 2017 Cavium, Inc.  
Copyright(c) 2021 Intel Corporation  
Copyright(c) 2022 Intel Corporation Implements SFF-8024 Rev 4.0 of pluggable I/O configuration and some common utilities for SFF-8436/8636 and SFF-8472/8079  
Copyright 2022 Microsoft Corporation  
Copyright(C) 2019 IBM Corporation  
Copyright (C) 2015 Freescale Semiconductor, Inc.  
Copyright(c) 2022 StarFive  
Copyright (C) IGEL Co.,Ltd.  
Copyright 2017-2019 NXP  
Copyright(c) 2018 Intel Corporation.  
Copyright(c) 2001-2021 Intel Corporation  
Copyright(c) 2019 Intel Corporation  
Copyright(c) 2010-2018 Intel Corporation  
Copyright(c) 2017 Cavium, Inc.  
Copyright(c) 2017-2020 Intel Corporation  
Copyright (c) 2010, Keith Wiles <keith.wiles@windriver.com>  
Copyright (c) 2010-2015 Intel Corporation  
Copyright(c) 2013-2019 Solarflare Communications Inc.  
Copyright(c) 2018 Cavium Networks  
Copyright 2017-2021 NXP  
Copyright(c) 2016 Cavium, Inc  
Copyright (c) 2020 Dmitry Kozlyuk <dmitry.kozliuk@gmail.com>  
(c) 2018 Luca Boccassi <bluca@debian.org>  
Copyright (c) 2007-2009 Kip Macy kmacy@freebsd.org All rights reserved.  
Copyright(c) 2018 Cavium, Inc  
Copyright(c) 2016-2018, Linaro Limited.  
Copyright(c) 2022 University of New Hampshire  
Copyright (c) 2015-2019 Amazon.com, Inc. or its affiliates.  
Copyright(c) 2014 6WIND S.A.  
Copyright(c) 2012-2013 6WIND S.A.  
Copyright (C) 2006 Bob Jenkins (bobjenkins@burtleburtle.net)  
Copyright(c) 2018 Semihalf.  
Copyright 2016 Mellanox Technologies, Ltd  
Copyright(c) 2017 Intel Corporation  
Copyright 2016,2021 NXP  
Copyright(c) 2014-2019 Chelsio Communications.  
Copyright(c) 2018-2023 Intel Corporation.  
Copyright (c) 2018 Arm Limited  
Copyright(c) 2019-2020 Intel Corporation  
Copyright 2017 Cavium  
Copyright (c) 2015-2020 Amazon.com, Inc. or its affiliates.  
Copyright(c) 2023 Ericsson AB  
Copyright (c) 2023 Marvell.  
Copyright(c) 2016-2021 Intel Corporation  
Copyright(c) 2023 Corigine, Inc.  
Copyright(c) 2018 Intel Corporation  
Copyright (c) 2007-2009 Kip Macy kmacy@freebsd.org  
Copyright(c) 2018-2019 Ericsson AB  
Copyright(C) 2021 Marvell.  
Copyright (c) 1998 Doug Rabson All rights reserved.  
Copyright (c) 2023 Stephen Hemminger  
Copyright (C) 2020 Marvell.  
Copyright (c) 2014-2023 Broadcom Inc.  
Copyright(c) 2007-2019 Solarflare Communications Inc.  
Copyright 2018 Gaëtan Rivet  
Copyright 2016-2021 NXP  
Copyright(c) 2019 Cesnet  
Copyright(c) 2010-2016 Intel Corporation.  
Copyright(c) 2019 Ericsson AB  
Copyright (c) 2008 Marcel Moolenaar  
Copyright(c) 2017-2018 Intel Corporation.  
Copyright(c) 2009-2019 Solarflare Communications Inc.  
Copyright 2014-2020 Mellanox Technologies, Ltd  
Copyright (c) 2007,2008 Kip Macy kmacy@freebsd.org All rights reserved.  
Copyright(c) 2021 Intel Corporation.  
Copyright(C) 2023 HiSilicon Limited  
Copyright 2016-2017 NXP  
Copyright(c) 1982, 1986, 1990, 1993 The Regents of the University of California.  
Copyright (c) 2014, 2015 Netronome Systems, Inc.  
Copyright(c) 2018 Gaëtan Rivet  
Copyright (c) 2014 6WIND S.A.  
Copyright(C) 2023 Intel Corporation  
Copyright 2016,2019-2021 NXP  
Copyright(c) 2018 HUAWEI TECHNOLOGIES CO., LTD.  
Copyright (c) 2021 Microsoft Corporation  
Copyright 2016 Intel Corporation.  
Copyright(c) 2016-2022 Intel Corporation  
Copyright (c) 2015-2016 Freescale Semiconductor, Inc. All rights reserved.  
Copyright(C) 2023 Marvell Inc.  
Copyright (c) 2010-2020 Intel Corporation  
Copyright (C) 2014-2016 Freescale Semiconductor, Inc.  
Copyright 2021 NXP  
Copyright 2017,2019-2021 NXP  
Copyright 2017 NXP.  
Copyright(c) 2016 Neil Horman <nhorman@tuxdriver.com>  
Copyright 2019 6WIND S.A.  
Copyright (c) 2016 Brocade Communications Systems, Inc.  
Copyright(c) 1987, 1991, 1993 The Regents of the University of California. All rights reserved.  
Copyright 2017 NXP  
Copyright (C) 2023, Advanced Micro Devices, Inc.  
Copyright(c) 2023 Marvell.  
Copyright(c) 2001-2020 Intel Corporation  
Copyright(c) 2017 Huawei Technologies Co., Ltd  
Copyright (C) IBM Corporation 2016.  
Copyright(c) 2018 Marvell International Ltd.  
Copyright 2020 Mellanox Technologies, Ltd  
Copyright (c) 2015-2021 Atomic Rules LLC  
Copyright (c) 2021 Dmitry Kozlyuk  
Copyright (c) 2021 Stephen Hemminger Based on filter2xdp  
Copyright (c) 2001 Benno Rice  
Copyright(C) 2023 Marvell.  
Copyright 2020-2022 NXP  
Copyright 2019-2020 NXP  
Copyright(c) 2017-2023 Broadcom All rights reserved.  
Copyright(c) 2010-2019 Intel Corporation.  
Copyright(c) 2018 Synopsys, Inc. All rights reserved.  
Copyright(c) 2010-2019 Intel Corporation  
Copyright (c) 2010-2016 Intel Corporation.  
Copyright (c) 2019 Arm Limited  
Copyright (C) 1989, 1991 Free Software Foundation, Inc., 51 Franklin Street, 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.  
Copyright (c) 2015-2018 Atomic Rules LLC  
Copyright(c) 2016-2018 Intel Corporation.  
Copyright(c) 2022 Xilinx, Inc.  
Copyright(c) 2023 Netronome Systems, Inc.  
Copyright(c) 2021 SmartShare Systems  
Copyright (c) 2023 Arm Limited.  
Copyright 2013-2015 Freescale Semiconductor Inc.  
Copyright 2014-2016 6WIND S.A.  
Copyright 2017-2018 NXP  
Copyright (c) 2020 Marvell.  
Copyright(c) 2022 Intel Corporation Implements SFF-8472 optics diagnostics.  
Copyright(C) 2021 HiSilicon Limited  
Copyright 2018 Mellanox Technologies, Ltd  
Copyright 2017,2020 NXP  
Copyright(c) 2018 Netronome Systems, Inc.  
Copyright (c) 2011 - 2014 PLUMgrid, http://plumgrid.com  
Copyright 2017,2022 NXP  
Copyright(c) 2017-2018 Intel Corporation  
Copyright(c) 2001 - 2015 Intel Corporation  
Copyright(c) 2016 Cavium, Inc.  
Copyright(c) 2022-2023 University of New Hampshire  
Copyright 2008-2018 Cisco Systems, Inc. All rights reserved.  
Copyright(c) 2015-2019 Vladimir Medvedkin <medvedkinv@gmail.com>  
Copyright (c) 2014-2016 Freescale Semiconductor, Inc. All rights reserved.  
Copyright(c) 2022 Nvidia Inc. All rights reserved.  
Copyright(c) 2022 Corigine, Inc.  
Copyright(c) 2021 Xilinx, Inc.  
Copyright(c) 2020, Alan Liu <zaoxingliu@gmail.com>  
Copyright(c) 2018 Vladimir Medvedkin <medvedkinv@gmail.com>  
Copyright 2015-2020 Mellanox Technologies, Ltd  
Copyright(c) 2010-2014 Intel Corporation  
Copyright(c) 2023 Amd Limited  
Copyright (c) 2023 Stephen Hemminger <stephen@networkplumber.org>  
Copyright (C) 2019 Intel Corporation  
Copyright 2018-2019 Cisco Systems, Inc. All rights reserved.  
Copyright(c) 2023 Microsoft Corporation  
Copyright 2021 Mellanox Technologies, Ltd  
Copyright(c) 2014-2021 Broadcom All rights reserved.  
Copyright (C) 2014 Freescale Semiconductor, Inc.  
Copyright (c) 2015-2018 Cavium Inc.  
Copyright (c) 2023 NVIDIA Corporation & Affiliates  
Copyright (c) 2020 Amazon.com, Inc. or its affiliates.  
Copyright(c) 2018 Arm Limited  
Copyright(c) 2021-2021 Hisilicon Limited.  
Copyright 2018-2019 NXP  
Copyright (c) 2014-2018 Netronome Systems, Inc.  
Copyright (c) 2010-2017 Intel Corporation  
Copyright(c) 2022 Red Hat Inc,  
Copyright (C) 2015-2023 Google, Inc.  
Copyright(c) 2017 Brocade Communications Systems, Inc.  
Copyright(c) 2010 - 2015 Intel Corporation  
Copyright 2015 6WIND S.A.  
Copyright (c) 2016 Intel Corporation.  
Copyright(c) 2019 Netcope Technologies, a.s. <info@netcope.com>  
Copyright 2017,2019,2022 NXP  
Copyright(c) 2014-2017 Wind River Systems, Inc.  
Copyright(c) 2020 Arm Limited  
Copyright (c) 2023 Corigine, Inc.  
Copyright(c) 2016 IGEL Co., Ltd.  
Copyright (c) 2018, Microsoft Corporation.  
Copyright 2020-2021 NXP  
Copyright 2018 NXP  
Copyright (C) Mellanox Technologies, Ltd. 2001-2020.  
Copyright(c) 2018-2019 Intel Corporation  
Copyright 2010-2011 Freescale Semiconductor, Inc.  
Copyright (c) 2008-2016 Freescale Semiconductor, Inc.  
Copyright (c) 1989, 1993, 1994 The Regents of the University of California. All rights reserved.  
Copyright (c) 2020 Samsung Electronics Co., Ltd All Rights Reserved  
Copyright(c) 2001-2023 Intel Corporation  
Copyright 2010-2016 Freescale Semiconductor, Inc.  
Copyright(c) 2020-2021 Xilinx, Inc.  
Copyright 2016-2019 NXP  
Copyright(c) 2018 David Marchand <david.marchand@redhat.com>  
Copyright(C) 2020 Marvell.  
Copyright(c) 2021-2023 Broadcom All rights reserved.  
Copyright 2022 Intel Corporation  
Copyright(c) 2020 Mellanox Technologies, Ltd  
Copyright(c) 2019 - 2022 Intel Corporation  
Copyright 2018-2020 NXP  
Copyright(c) 2016-2018 Intel Corporation  
Copyright(c) 2015-2020 Intel Corporation  
Copyright 2016 Freescale Semiconductor, Inc. All rights reserved.  
Copyright(c) 2016 Intel Corporation  
Copyright(c) 2013-2017 Wind River Systems, Inc.  
Copyright (c) 2012 Citrix Inc.  
Copyright(c) 2015-2017 Intel Corporation  
Copyright (c) 2023 Robin Jarry  
Copyright 2015-2019 Mellanox Technologies, Ltd  
Copyright 2011 Freescale Semiconductor, Inc.  
Copyright (c) 2016 Freescale Semiconductor, Inc. All rights reserved.  
Copyright(c) 2023 PANTHEON.tech s.r.o.  
Copyright(C) 2021 Marvell International Ltd.  
Copyright(c) 2023 Intel Corporation  
Copyright(c) 2016-2017 Cavium, Inc  
Copyright(c) 2022 Ericsson AB  
Copyright(c) 2017 IBM Corporation.  
Copyright 2017,2019-2023 NXP  
Copyright 2020 Mellanox Technologies Ltd  
Copyright(c) 2016 6WIND S.A.  
Copyright(c) 2018 Intel Corporation  
Copyright(c) 2018 Advanced Micro Devices, Inc. All rights reserved.  
Copyright (c) 2019 Red Hat, Inc.  
Copyright 2016,2019 NXP  
Copyright 2006 Bob Jenkins  
Copyright (C) 1996, 1997, 1998 Theodore Tso.  
Copyright 2022-2023 Linaro ltd.  
Copyright (c) 2021 NVIDIA Corporation & Affiliates  
Copyright(c) 2019 Microsoft Corporation  
Copyright(c) 2016-2020 Intel Corporation  
Copyright (c) 1998 Doug Rabson  
Copyright(C) 2022 Intel Corporation  
Copyright (C) 2023 Microsoft Corporation  
Copyright 2017-2018, 2020-2021 NXP  
Copyright (c) 1991, 1993 The Regents of the University of California. All rights reserved.  
Copyright (c) 2000 The NetBSD Foundation, Inc.  
Copyright(c) 2021 Marvell  
Copyright(c) 2020-2021 HiSilicon Limited.  
Copyright (c) 2014-2018 Cavium Inc.  
Copyright(c) 2021 Broadcom All rights reserved.

**License:** BSD and LGPLv2 and GPLv2

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.  
  
  
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!  
  
Standard License Header  
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; version 2.  
  
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.  
  
GNU GENERAL PUBLIC LICENSE  
Version 2, June 1991  
  
Copyright (C) 1989, 1991 Free Software Foundation, Inc.  
51 Franklin Street, 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.  
  
Preamble  
  
The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) 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 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 software, or if you modify it.  
  
For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. 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.  
  
We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.  
  
Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, 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 redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.  
  
The precise terms and conditions for copying, distribution and modification follow.  
  
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION  
  
0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".  
Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.  
  
1. You may copy and distribute 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 and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.  
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 Program or any portion of it, thus forming a work based on the Program, 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) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.  
b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.  
c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)  
These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, 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 Program, 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 Program.  
  
In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.  
  
3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:  
a) 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; or,  
b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,  
c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)  
The source code for a work means the preferred form of the work for making modifications to it. For an executable work, 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 executable. 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.  
  
If distribution of executable or 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 counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.  
  
4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program 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.  
5. 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 Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.  
6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program 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.  
7. 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 Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program 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 Program.  
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.  
  
8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program 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.  
9. The Free Software Foundation may publish revised and/or new versions of the 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 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 Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.  
  
10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, 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  
  
11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, 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.  
12. 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 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.  
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 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 program's name and an idea of what it does.>   
Copyright (C) <yyyy> <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 2 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, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA.  
  
Also add information on how to contact you by electronic and paper mail.  
  
If the program is interactive, make it output a short notice like this when it starts in an interactive mode:  
  
Gnomovision version 69, Copyright (C) year name of author Gnomovision 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, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.  
  
You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:  
  
Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision' (which makes passes at compilers) written by James Hacker.  
  
<signature of Ty Coon>, 1 April 1989 Ty Coon, President of Vice  
  
This 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.

**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 .**