

Open Source Licensing

I AM NOT A LAWYER

If you actually believe anything I say it's 100% your fault.

Please consult your own legal counsel. Even when they are wrong, they are right.

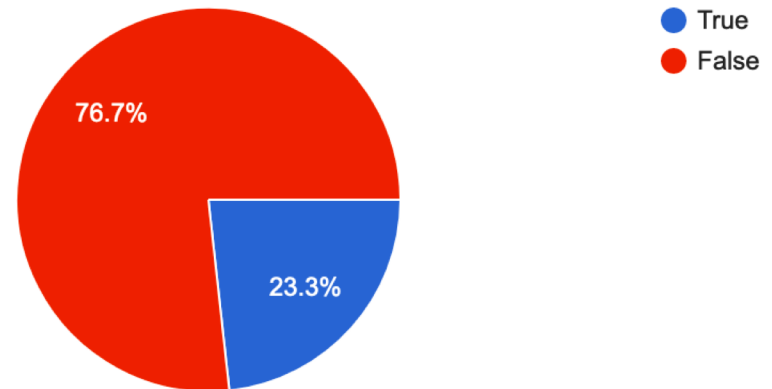
Okay then what's the point of this?

Lawyers are (usually) there to reduce risk and liability.

Even 25+ years later, there is substantial misunderstanding of open source.

Question #1

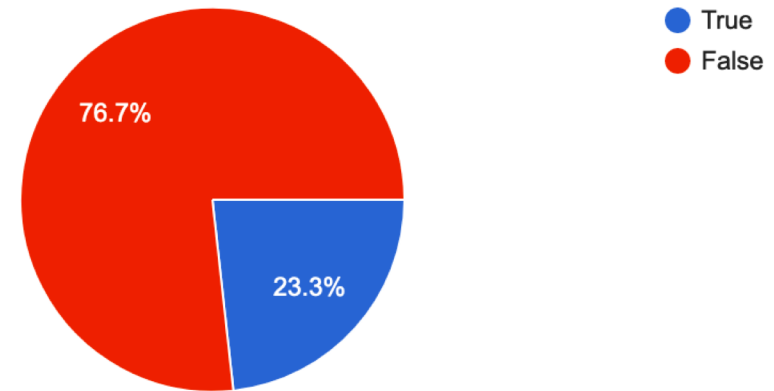
- If you modify GNU Radio code within your company, the GPL requires you to release that code to the public.



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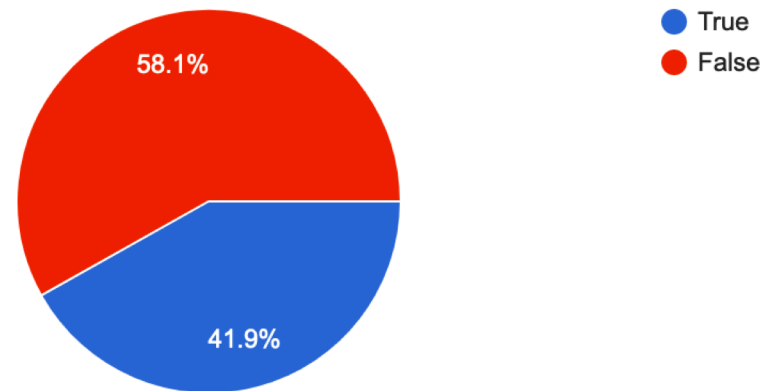
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- **ANSWER: FALSE**



Question #2

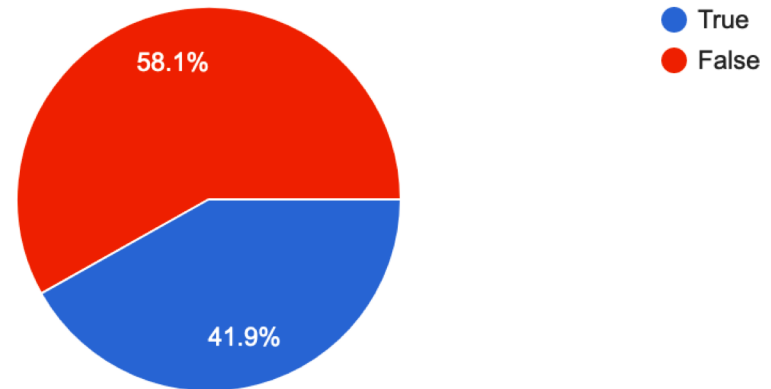
- If you create a GNU Radio Out-of-Tree Module and publish it to Github, it must be licensed under the GPL.



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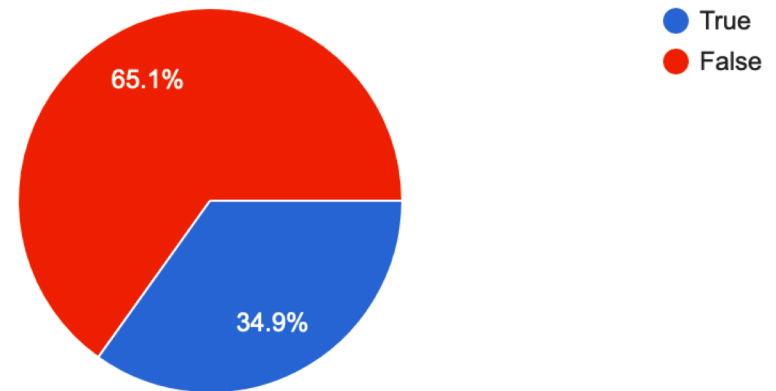
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Question #3

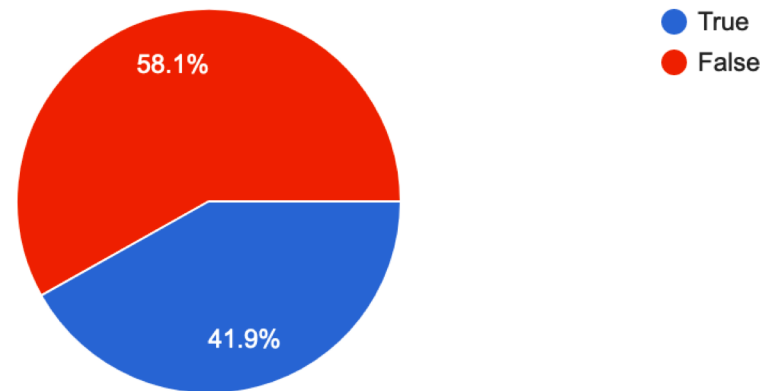
- If you have executed a copyright assignment for GNU Radio, once you submit code to GNU Radio, you cannot use that same code in non-GPL software.



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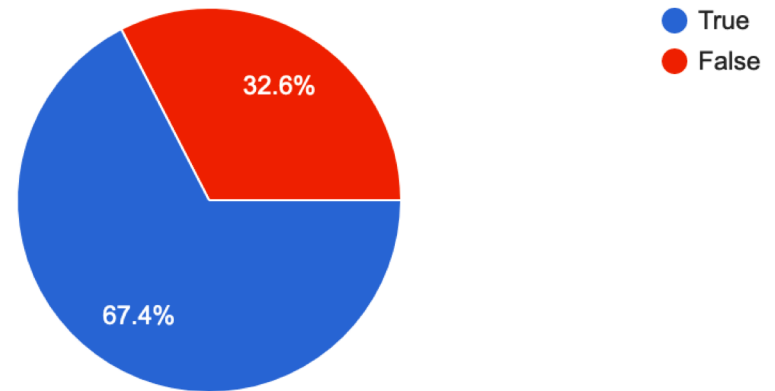
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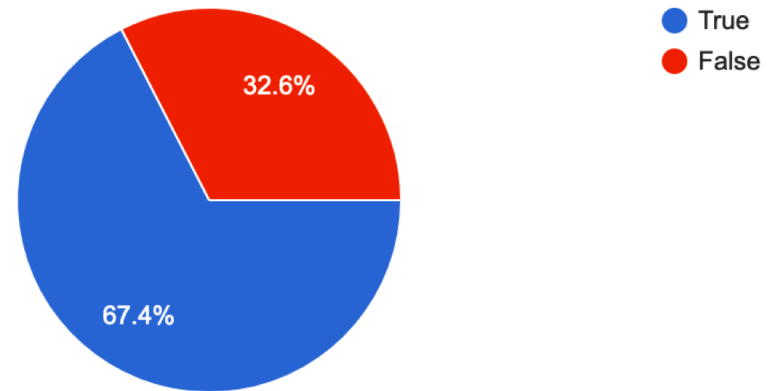
- If a court rules that you have violated the GPL, it can force you to release the source code to your software.



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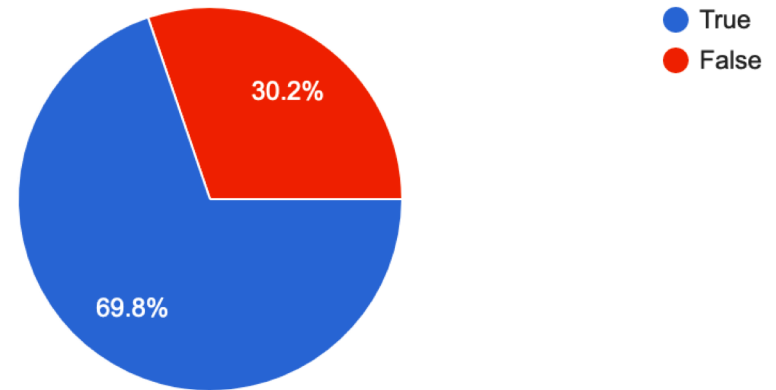
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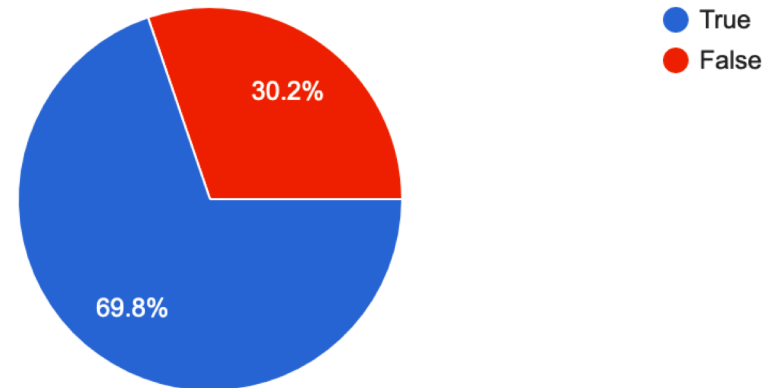
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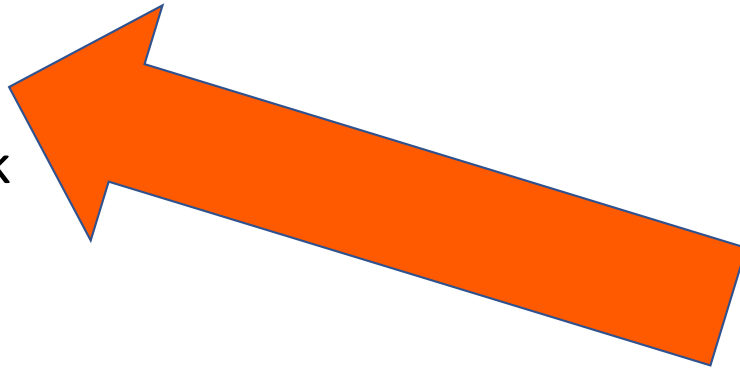


Intellectual Property

- Copyright
- Trademark
- Patent

IP CRASH COURSE

- Copyright
- Trademark
- Patent



This is the mechanism
of software licenses.

Fundamental License Clauses

1. Right to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software.
2. Statement of Notice
3. Limitation of Liability / NO WARRANTY

Categories of Open Source Licenses

- **Strong Copyleft:** if you use this software, it must use its license
- **Weak Copyleft:** if you use this software, this component must use this license
- **Permissive:** (mostly) do whatever you want

What does “Open Source” Mean?

- The “Open Source Definition” is maintained by the OSI, and has an explicit definition.
 - BUT, the term “open source” is not controlled.
 - Some IP lawyers care, others don't.
1. **Free Redistribution**
 2. **Source Code**
 3. **Derived Works**
 4. **Integrity of The Author's Source Code**
 5. **No Discrimination Against Persons or Groups**
 6. **No Discrimination Against Fields of Endeavor**
 7. **Distribution of License**
 8. **License Must Not Be Specific to a Product**
 9. **License Must Not Restrict Other Software**
 10. **License Must Be Technology-Neutral**

Why does it matter?

- The term “open source” has started to show up in contracts.
- See: the 2018 National Defense Authorization Act, Section H
- Does “open source” necessarily mean copyleft?

GNU Radio is distributed under GPLv3

- A strong copyleft license.
- "Conveyance" is what triggers distribution.
- The boundary is generally considered to be shared address space.
 - ****NOT**** proven in US courts.

Copyrighting Your Code

- You automatically own the copyright!
- Copyright (c) <year> <copyright holders>
- Side note: “All Rights Reserved” is meaningless

Copyright Assignment to GNU Radio

- Once copyright is assigned, you no longer own that code.
- But, you are granted back a license to do anything you want.
 - Including sublicensing!
 - This means you can use it in proprietary software.

Default Rights

- If you publish code with no license, the default is no one else has rights to do anything with it.
- They cannot use it, reproduce it, or distribute it.

Github's Default

You're under no obligation to choose a license. However, without a license, the default copyright laws apply, meaning that you retain all rights to your source code and no one may reproduce, distribute, or create derivative works from your work. If you're creating an open source project, we strongly encourage you to include an open source license. The [Open Source Guide](#) provides additional guidance on choosing the correct license for your project.

Note: If you publish your source code in a public repository on GitHub, according to the [Terms of Service](#), other GitHub users have the right to view and fork your repository within the GitHub site. If you have already created a public repository and no longer want users to have access to it, you can make your repository private. When you convert a public repository to a private repository, existing forks or local copies created by other users will still exist. For more information, see "[Making a public repository private](#)."

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Does open source require assignment?

- No!
- The Linux kernel has more than 15,000 contributors, and no assignment.
- So why do some orgs / companies require assignment?
 - Dual-Licensing business models
 - Litigating infringement

So who can litigate?

- In the US, ****only**** the copyright owner can enforce.
- Not true in other countries!
 - See: Germany

Government Copyright

- In the United States, work produced by government employees is not eligible for copyright protection.
 - It's all “public domain”, because it's owned by the tax payer!
 - So... who has liability.
 - Result: many years of nothing getting released.
- Not a problem in most other countries.
 - Ex: The Commonwealth Realm has Crown Copyright

NSA Ghidra

- Reverse engineering framework released by the NSA
- Released under Apache 2.0 License



Ghidra

This product includes software developed at National Security Agency
(<https://www.nsa.gov>)

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The Ghidra software is released under the Apache License, Version 2.0 ("Apache 2.0").

Patents

- Question: so what happens if someone gives you a license to use something, but by using it you infringe on their patents?
- Many commonly used licenses (MIT, BSD, etc.,) were written before the patentability of software was really “a thing”.
- They do **not** provide an express patent grant?
- Soooooooooo what’s the deal? No court has said.

Patent Grants

- New licenses provide express patent grants.
- Way these work: for any code provided under said license, there is an express grant of patent license for any patents you hold that are necessary to use that code.
- The GPLv3 has this clause.

Apache Patent Retaliation

- Goal: if you are going to litigate against someone for patent infringement for using Apache-licensed code, your license to that code immediately terminates.
- Works really well for widely adopted / ubiquitous software.
- Doesn't always work – see: Microsoft and Android.

Licensing Hardware

- There are a number of licenses specifically for hardware designs:
 - Open Hardware License (OHL)
 - Solderpad License
 - TAPR Open Hardware License
- How do these work for “hardware-ish” things?
 - FPGAs
 - ASIC masks
- Turns out, not that well, and lawyers get uncomfortable.
 - There is a GPL Exception. LGPL also popular. Both are flawed.

New Hardware Licensing Effort

- Open Hardware License v2 (OHL v2)
- Led by CERN, authored by a UK IP attorney
- <https://www.ohwr.org/project/cernohl/wikis/CERN-OHL-v2-draft>
- Provides Strong Copyleft, Weak Copyleft, Permissive versions
- Please give us feedback!

Questions?