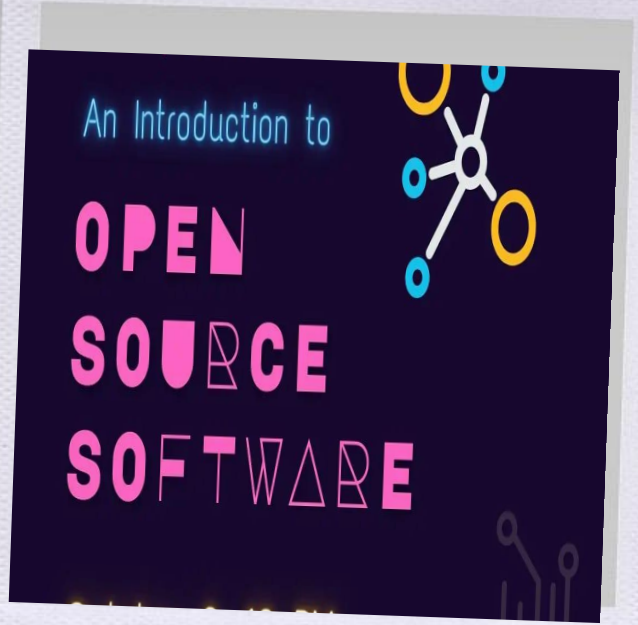
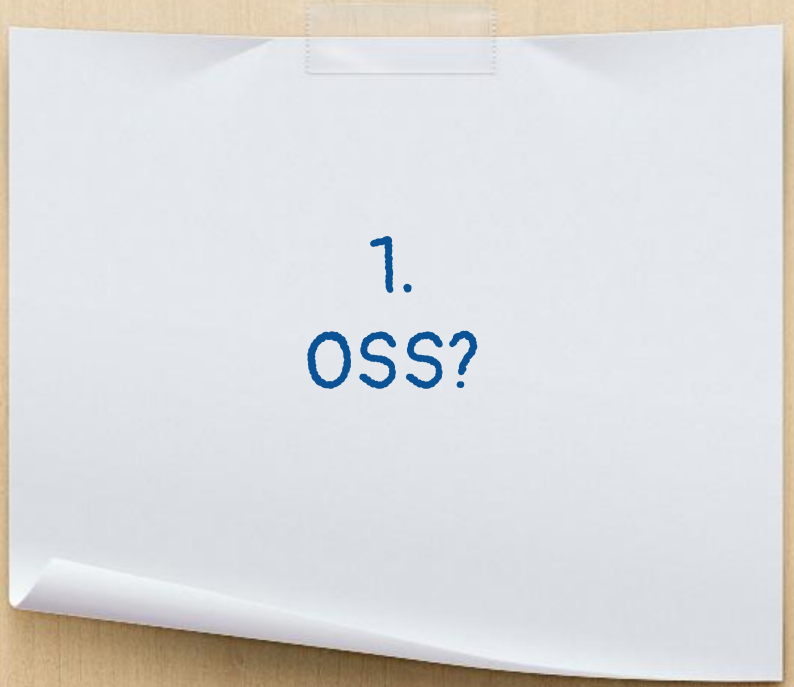
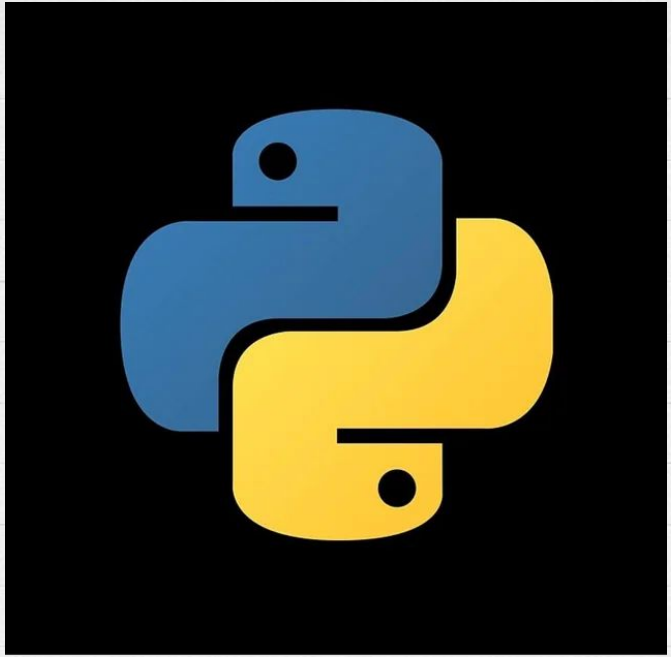
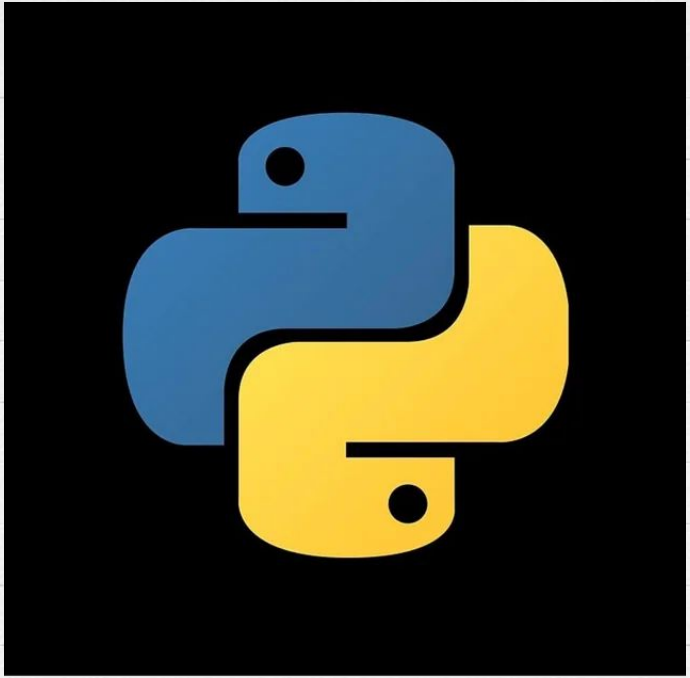
IITM welcomes all of you to the session

🔗https://cfi.iitm.ac.in/clubs/programming-club

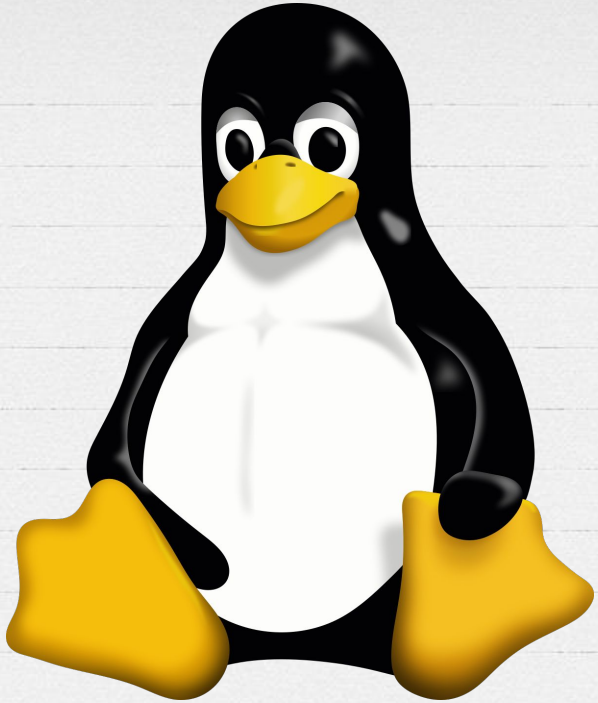


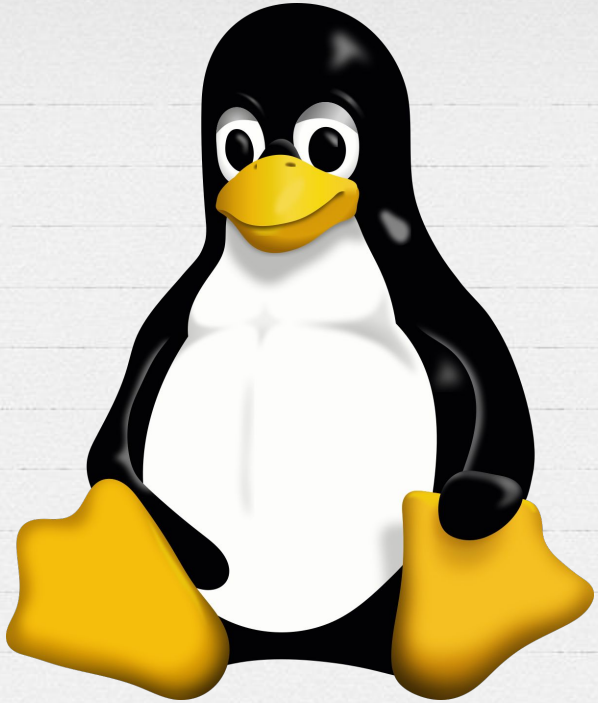

1.
OSS?





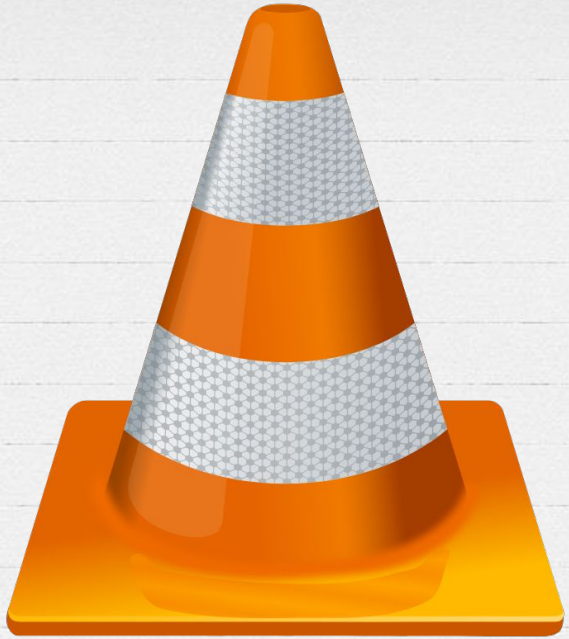
Python

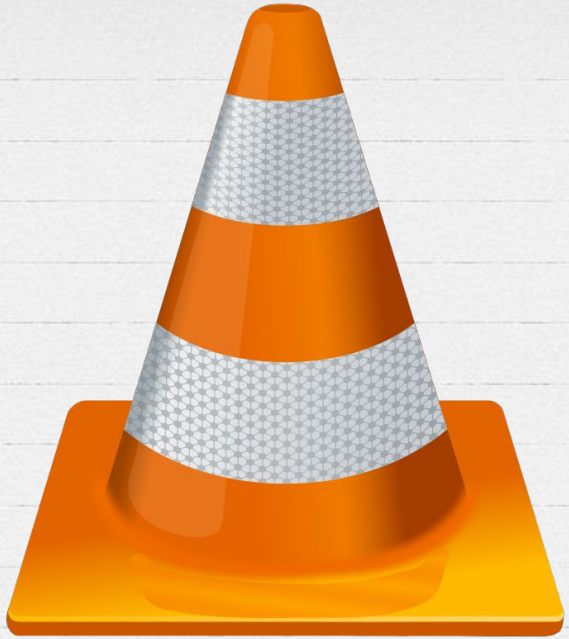




Linux

Brave



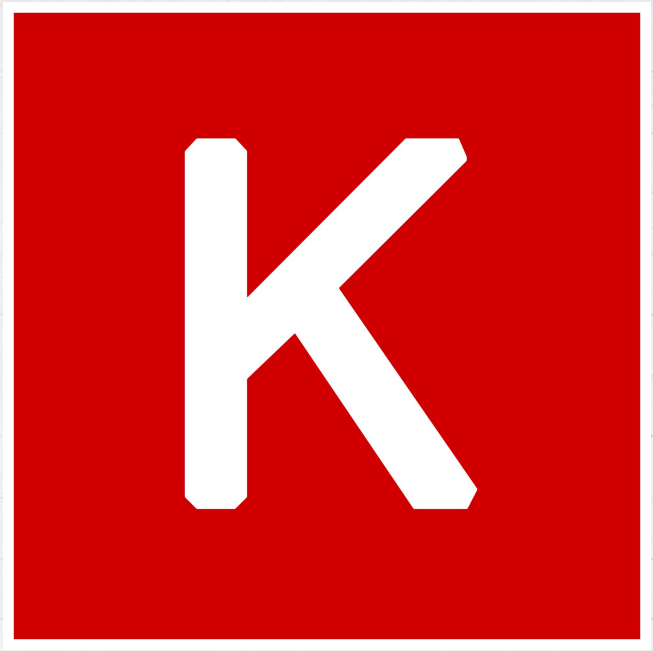


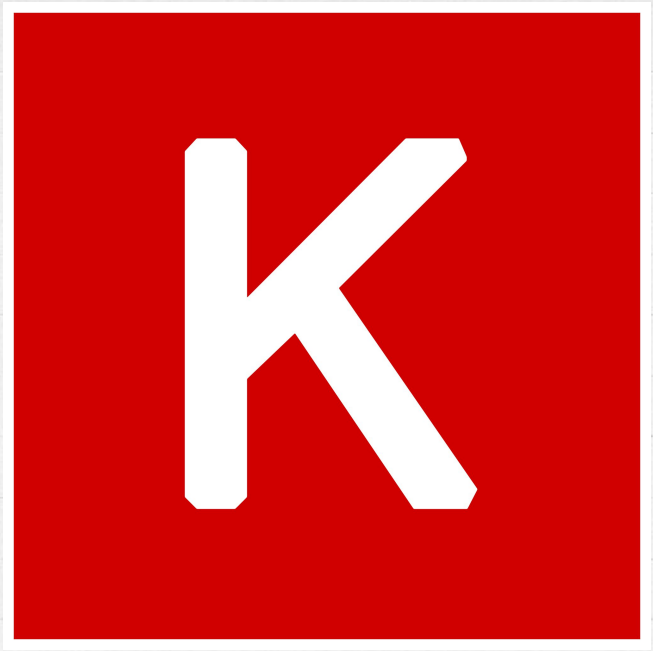
VLC

Kubernetes

Git

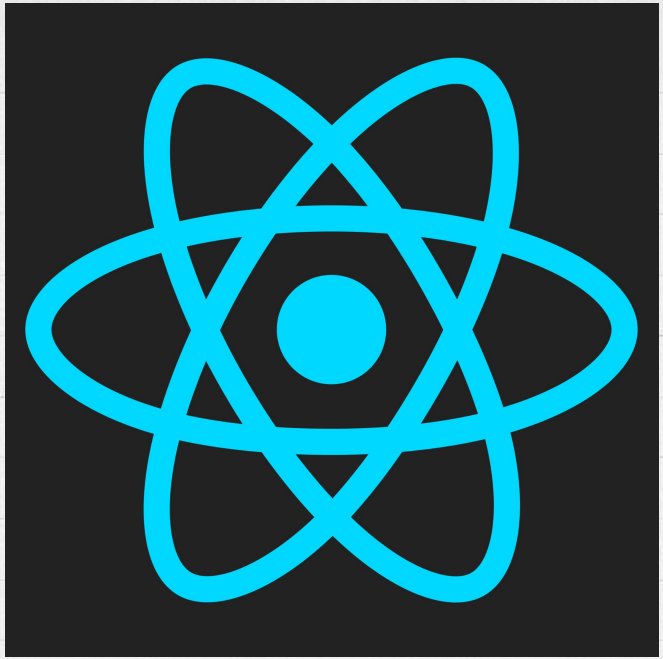
Mozilla

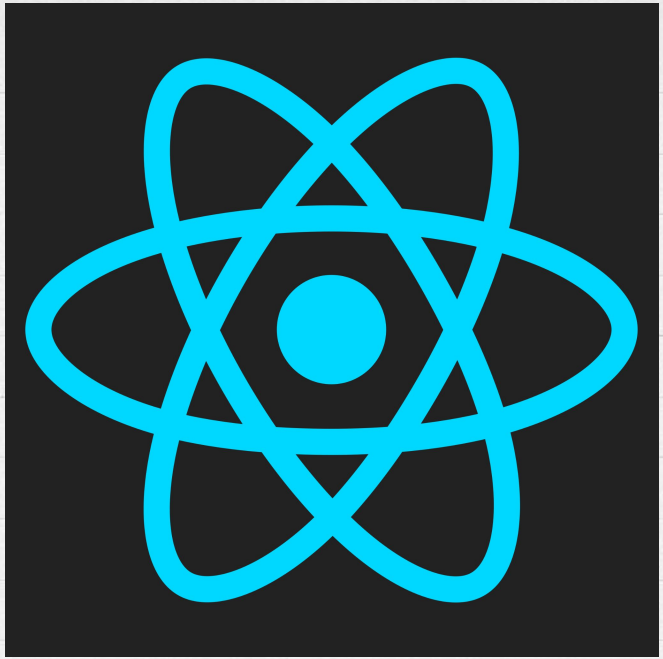

K



Keras

Tensorflow





React

Guests for the session

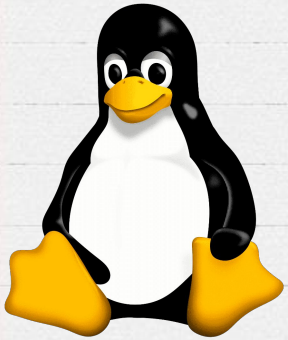
Anutosh Bhat
GSoC'23, PSF
GSoC'22 SymPy

Dhruv Maroo
GSoC'22, Rizin

Hari Hara Naveen S
GSoC'23, Ste||ar Group

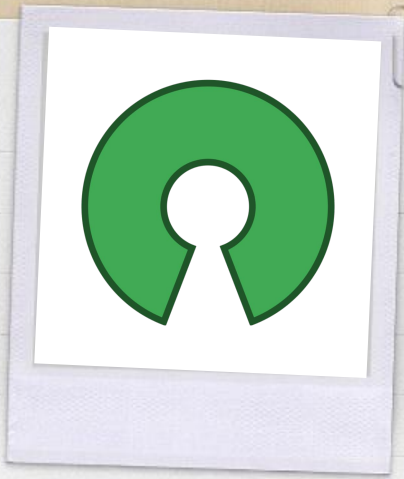
What is OSS?

- Source code - written by developer(s) of the software
- Anyone can look at, modify, and redistribute the source code
- Linux, Apache HTTP, Mozilla Firefox, OpenVPN, Git
- Makes up more than 90% of all software



Why OSS?

- Hone development and programming skills
- Make an impact!
- Become part of a community
- Well designed, documented, and supported
- Work with your own rules



Some OSS related programs

Season of Docs

Google Summer of Code

MLH Fellowship
Powered by GitHub

Hacktober 20 fest 21

2.
How do I start?

Select an Organization

- Domain of Interest vs Programming Languages
- Domains: Web development, Cloud Computing, Blockchain, Scientific Computing, Machine learning
- Languages: Python, Javascript, C++, Golang
- Curated list of organizations: https://summerofcode.withgoogle.com/programs/2023/organizations

There is no perfect organization, you will have to learn new things in any organization you choose.

Known Orgs in each Domain

- Web Development: React, Node.js, Mozilla
- Machine Learning: PyTorch, Tensorflow, MlPack
- Web3 and Blockchain: Ethereum, Bitcoin
- Cloud Computing: Kubernetes, Prometheus, Helm
- Scientific Computing: NumPy, Matplotlib, Pandas, Python Software Foundation

Making your first contribution!

Now that you've selected an organization, here's how to start contributing

The basics

Before getting started, let's look at some common jargon used in the open-source world

Commonly used terms

- Version Control: Git, Github, GitLab
- Issue / bug: Errors/unexpected behavior in the code
- Commit: A blob of changes made to the codebase
- Patch / pull request: A set of commits, which you want to see merged into the project
- Code review

Picking up an issue

- First of all, you'll need to find an issue to work on, which you'll "fix"
- Look out for the "good first issue" and "help wanted" labels
- Avoid taking up issues which you have zero idea how to fix, or which seem very involved

Once you select an issue, start reading the surrounding code and try to diagnose the issue via print-debugging

Asking for help

- When working on a fix, you're bound to get stuck
- Most open-source projects have dedicated communication channels (chat/email/forum) which you can use to ask for help
- Remember to be polite, and to give sufficient background about your problem for someone to help you!

Avoid direct-messaging anyone. Rather, ask for help on public forums.

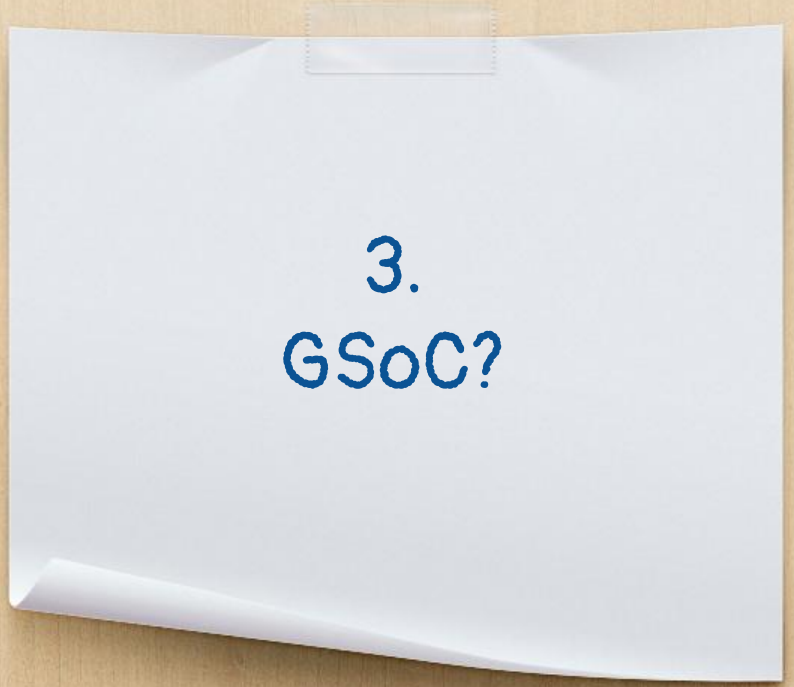
Submitting the patch

- When writing code, follow the coding-style used by the project
- Run any recommended linters/code-formatters
- Be consistent!
- Write tests for your code

Submit your patch as a Pull Request/Merge Request/etc to the repository

Getting your code reviewed

- ✗ Request the person who opened the issue or the project maintainer(s) to review your work
- ✗ Ask for reviews only after CI passes
- ✗ Acknowledge the fact that project maintainers are busy folks, and have limited time for any given Pull request
- ✗ Be patient!


3.
GSoC?

GSoC

Global program focused on bringing student developers into OSS. Students work with an organization on a 12 week programming project during the summer.

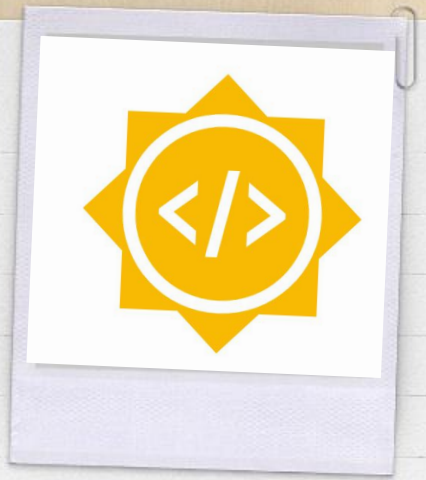
Why GSoC?

- Gain professional experience
- Sense of achievement
- Networking
- Great learning opportunity
- Stipend $3000

Overall, GSoC is a great way to spend your summer if you are interested in exploring software development!

Selecting an organization

- Area of interest
- Skill set required
- Popularity
- Active communication channel



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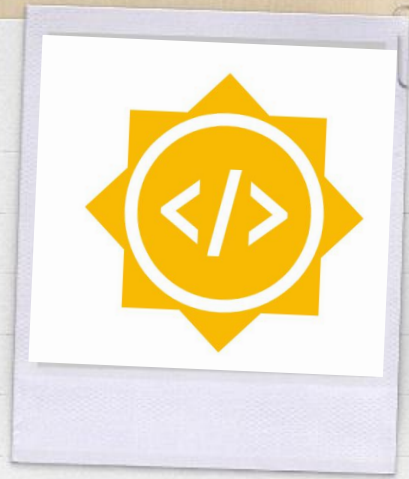
Writing the proposal

NEXT SESSION :)

Making a proposal

NEXT SESSION :)



Roadmap

NEXT SESSION :)

Timeline

NEXT SESSION :)

4.
HacktoberFest ?

HacktoberFest 2023

Global program focused on bringing student developers into OSS during the month of October.
Make 4 pull requests to orgs having the label HacktoberFest to win a t-shirt

Hactober Resources

- One stop solution:
  https://hacktoberfest.com/participation/

Gen Resources

1) https://firstcontributions.github.io/

2) https://youtu.be/NitAq2MG22w?si=mtxO3bQjbRz-VIrU

Any questions?