

# Kharagpur Winter of Code

## Student Manual

## Introduction

### What is Kharagpur Winter of Code ?

You have seen the website of KWOC, you have listened to friends talking about it, you have seen the posters all over the place and now you want to know about it more. That's great! So, here we go :

Kharagpur Winter of Code is an initiative by Kharagpur Open Source Society ([KOSS](#)) for the students, who have never participated in open source software development before, to get them involved during the winter vacations and break the ice of Open Source contributions. All of the work is going to be on [GitHub](#), a website which is used for source code hosting and collaborative software development.

KWOC is modelled to be similar to but smaller in scope than [Google Summer of Code](#). GSoC is a global program that matches students up with open source, free software and technology-related organizations to write code and get paid to do it. KWOC in a similar way, is aimed at introducing new students in the area.

Registered students will have to choose one or more projects from the project list, which will be released on December 1, 2016. Every project list will have at least one mentor and an Ideas Page. The Ideas Page will contain the possible work to be done on the project. Students will then contact the mentor who shall be guiding them on the project.

### Goals of the program

The major goals of KWOC are :

- Inspire young developers to get involved in Open Source software development.
- Help 1st and 2nd years to master the development workflow of Git and GitHub
- Connect with the mentors in the campus, help them be in contact even after the program ends
- Prepare for other Open Source programs like Google Summer of Code, Outreachy, Season of KDE, etc. See [an elaborated list](#).

# Why Should I Apply?

Well now you've known that Kharagpur Winter of Code seems like something productive to do this December. But shouldn't I just go on a trip or sleep my way through the vacations? Well here are some of the reasons why you should apply for it.

## **An absolutely amazing working experience on projects**

KWoC is a place where you not only get to use your current skillset on existing projects, but you are definitely going to hone them. The feeling of working in collaboration is one important skillset which probably is going to be new to you. On the other hand, the mentors of the projects themselves have recently been through what you would be going through while creating your first code patch. So, you get to be patient while working on the small fixes and managing the git workflow.

## **Acquiring new Skillsets**

While you'll be adding your piece of code to the existing piece of software, you will get to learn the structure of the software and more about the process of creating it from scratch. That, in future will help you in creating your own softwares.

## **Building your network in campus and online**

While being a part of KWOC, you will get to have healthy conversations with many helpful and talented mentors, most of whom are going to be your KGP seniors. This will help you build your network in your early days itself. You can then approach them anytime after the program ends. They remain with you, in your connections.

## **Sense of achievement**

It feels really great to have your first patch submitted. It feels like an achievement when your contribution goes online and is ready to be helpful to other folks throughout the world.

## **Mock for GSoC**

Many of the mentors of KWOC have been selected in Google Summer of Code before, both as students and as mentors. If you wish to apply for GSoC in summer, KWOC is probably one of the best things going to happen with you in December.

## **For the love of code, and open source**

If you love to code and it relates even distinctly to your passion, then simply express that love, by being a part of the Kharagpur Winter of Code.

# Am I Good Enough ?

For past two years, there has been at least one first year student from KGP who have made their way to GSoC. If they can, this simply rules out myths like *first years are not meant for it*. The skills you need to be a part of it are :

## **Communication skills**

You will have to speak up. You will have to email to the project mentor. You will have to submit your query to KOSS in case of any issue or facing difficulty in understanding anything. As long as you are able to express yourself, there is nothing to stop you from achieving it.

## **A working laptop/computer with internet throughout the program**

Most of the time, you will be coding and pushing your code online. This requires you to have a computer and a working internet connection with you.

ProTip : Don't be afraid if you don't have a Linux/Ubuntu operating system. Your mentor is there to help you out.

# Applying

## Registering on the website

Go to the website of KWoC - <http://kwoc.kossiitkgp.in>. Navigate to the bottom of page and find the form to "Register as a Student. Fill in your name, your roll number and your email address. Now, if you have created an account on GitHub, add your username to the text box, or else leave it blank. Your mentor is going to help you with it. Hoorah! You're now in.

## Leaderboard

The leaderboard which displays all the activities by registered students in KOSS is live at <http://kwoc.kossiitkgp.in/leaderboard>. Basically it represents the activity board of each and every student registered in KWoC. The leaderboard is monitored by KOSS and various sorting options are available (by commits being the default one).

## Making contact

The contact details of each mentor will be available to you on the projects list. It is simple enough to understand that the details are public for no one other than you. So, you have every right to contact the mentor and ask for help on the project.

# Coding

## Joining GitHub

Go to [github.com](https://github.com). Sign Up on GitHub. Choose a username for you, and voila ! You've met the first requirement of being a part of KWoC. Share your username with us.

## Choosing a project

First of all, you can choose as many projects as you want. It's not about doing everything on just one project, but solving as many issues as you can, contributing as much as you can.

Navigate over to [kwoc.kossiitkgp.in/projects](https://kwoc.kossiitkgp.in/projects) and hunt down projects by their description. All of the projects must be on github. Learn how to get acquainted with github interface, by various resources available online.

## Adding your project

KWoC is about working on open source in December. In case you did not like any of the projects listed, contact us at [kossiitkgp@gmail.com](mailto:kossiitkgp@gmail.com). Tell us about the project you're working on, that will count as a valid contribution in KWoC as well, given that the project is not trivial enough and is approved by us.

## Software Development

Develop the project codebase. Write up test suites. Add third party integrations. And lots of other cool stuff depending on your project. After cooking up the perfect recipe, use Git to keep track of the changes and create your Pull Requests on GitHub. Fix as many issues you can and add as many new features possible in the project. Communicate with your mentor about further requirements and/or improvements.

## Writing documentation

The code that you have added must be documented thoroughly. Open Source is about writing code that humans can read and understand. Without documentation, it is so hard to read any code. Hence, add information in README, in the comments of code, etc. Ask the mentor to help you out with it.

# Code styling

Almost all the languages have a definitive style guide for them. Putting correct indentation, obeying line lengths, etc. are the features which make the code more and more readable. Many of the projects follow [Google Style Guide](#). You should work with your mentor about the code styling.

# Wrapping up

## Report Submission

At the end of the 5 weeks, you will have to create a report. Failing to do so, will not result in successful participation.

The report can be as descriptive as you want, but must contain the following points :

- List of projects you worked on
- List of Pull Requests you created
- Summary of your work

**Acknowledgment** : Huge thanks to the authors of the [GSoC Student Guide](#). The guide serves very well for referencing the outline of the KWoC Student guide.