ASE Project Proposal

Online Coding Portal For Institute
(Name will be set later)

Idea:
- The idea is to create an online coding portal for our institute to improve coding culture through active participation of users.
- This project is inspired by existing online coding portals like *Hackerrank* and *Codechef* along with a need to have such a platform of our own.
- This will help students to improve their coding skills via peer-to-peer learning thereby creating a good programming community in our institute

About the project:
- **The project will mainly consist of a portal where anyone from the institute (including professors) can post problems.**
- Each problem will contain a problem description along with the expected output for a few given test cases.
- The students can then attempt to solve the problem.
- For the solution, students have to write a code to solve the given problem and then upload the code to the server.
- The server will then execute the code and test it against some hidden test cases and corner cases.
- Then the server will display back the results to the student.
- A problem will be considered "*successfully solved*" by a student if it is able to pass all the test cases with 100% accuracy in a fixed amount of time.
- If the solution passes only some test cases or with only some accuracy, then the problem will be considered "*partially solved*" by the student and he/she will get only partial points

- The time can be set by the problem setter. This will encourage students to find more efficient solutions for their problem and optimize their code so that it executes in the given time.
- The difficulty level of a question can be ranked based on the number of people that are able to solve it.
- The solutions for the problem can be posted on the portal after a few days/weeks by the problem setter if she/he wishes so.
- ***This portal will also have the facility to host contests/events in the college.***
- Each event will consist of a number of questions and participants can be ranked based on the number of questions they are able to solve in a given time.
- This portal will also allow event organizers to restrict participation only to a few users (*A problem faced in this year's Techfest as we are using codechef but codechef doesn't have this facility*)
- ***Each problem can contain a discussion forum where people can chat with problem setters and clarify doubts regarding the questions***
- The **"problem setters"** can also be a group of people some of whom will be responsible for testing the problem/test-cases
- The portal in future can also incorporate a plagiarism detector to ensure that multiple students are not submitting the same code