

Offline Programming Platform

Authentication

Offline programming platform has two types of users.

- Administrator
- Problem solver

At the time of installation of this system an administrator account will be created who will maintain the system. For account creation any type of user has to provide these information

- Username/Email
- Password
- Recovery Pin

User's password can be at most fifteen characters and pin four characters. An administrator account can only be created by another administrator.

Only authenticated user can enter to the system. A user can log into the system entering his/her username/email and password. If provided username/email and password matches, user can enter to the system. Otherwise an error message will be shown.

If a user forget his/her password then he/she can recover his/her account by clicking forgot password button. When a user clicks this button then the system will ask for his username/email and pin number. If provided email and pin number matches then he/she will be able to see his/her password. Then using that password he/she can enter to the system.

Problem Set Management

One of the basic features of a Programming Platform is to give the programmers the opportunity to practice programming problems to enhance their coding skills. A programming platform is supposed to have some predefined problems which have been set by the administrator.

The problem set will hold the programming problems that have been set in previously arranged contests. This problem set will allow the users to practice contest problems even the contest duration is over.

All the problems will be set by the administrator. Users can surf through the problem set and solve the problems of their choice.

Programming Contest Management

Arrangement of contest is the greatest feature of a programming platform or judge. An administrator can arrange programming contests.

To arrange a contest, the administrator needs to set problems. The administrator will set a problem by uploading a problem description file which will be a portable document format (pdf) file. The administrator will also upload a test input file and a solution file corresponding to every problem. The duration of the contest will also be set by the administrator. Every contest is accessed through a password which will be set by the administrator.

The users can participate in the private contest. For this the users need to know the password of that particular contest. Users will be ranked based on their performance in the contest.

After the contest, the problems of the contest will also be added to problem set.

Solution Assessment

A user can submit the solution of a problem through an input text field which will be underneath that particular problem. At the same time s/he will also select the programming language. The available programming language in this case will be C, C++ and Java.

The submitted solution will be first compiled by the system based on the programming language s/he has selected. Then this solution will be run against the pre-set test input file. The output of the given input set will be matched against the solution file which has also been set by the administrator. If the output matches with the inputted solution, the solution code will be accepted. Otherwise, the solution will be not accepted. In response to the submitted solution code, the system will provide one of the following verdicts:

- Accepted : If the output satisfies the provided solution file.
- Wrong answer : If the output does not satisfy the provided solution file.
- Compilation error : If the system fails to compile the solution code.
- Time limit exceed : If the code takes more time than it is expected to execute that code.

User Profile Management

Every user will be provided a dedicated profile against the email he has provided. In her/his profile, a user can see the problems s/he has solved in the contests or after the contests. He can also see in which contest s/he has participated.

A user can also modify her or his profile information (name, institution, age, password and recovery pin).