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1.0 System Overview

A Programming platform is a platform where a user can see some programming problems and solve them by writing code, and submit that code in that system for judgment. In this project, only authenticated user can enter to the system. Only administrator can set, remove or modify contest and problems. Normal user (problem solver) can participate in contest and solve those problems. The programming language of the submitted code must be in C and C++. Then the system will compile and execute the submitted code and give a verdict to the user. Here the verdict will be one of these (compilation error, right answer, wrong answer, time limit exceed). A user can also modify his/her profile.

2.0 SYSTEM SUMMARY

System Summary section provides a general overview of the system. The summary outlines the uses of the system's hardware and software requirements, system's configuration, user access levels and system's behavior in case of any contingencies.

2.1 System Configuration

Programming Platform is a web based application which can be accessed through any web browser. The web application has been hosted on a linux based server using the XAMPP server. In this project, the project has been hosted on a Linux distribution called Ubuntu.

2.2 User Access Levels

Registered Users can use the web application.

3.0 GETTING STARTED

Getting Started section explains how to get Programming Platform and install it on the device. The section presents briefly system menu.

3.1 Installation

The newest installation version currently available can be downloaded from <https://github.com/hasantarek2002/SPL2>. This project should be installed on a Linux based web server. XAMPP (version 7.2.1) web server for Linux needs to be installed. Then the project should be placed in the htdocs folder inside the xampp folder.

- `/opt/lampp/htdocs/programmingPlaform/imageUpload`
- `/opt/lampp/htdocs/programmingPlaform/setContest/uploads`
- `/opt/lampp/htdocs/programmingPlaform/submitAndRunCode/CCode`
and
- `/opt/lampp/htdocs/programmingPlaform/submitAndRunCode/CPPCode`

Directory path access should be changed to all user accesses by writing the following command:

```
#chmod 777 directoryPath
```

The URL (Uniform Resource Locator) for accessing this project will be: `"ipAddress/programmingPlatform"`.

The system will have two types of user. They are: Administrative User and Normal User. They will be provided with two different interfaces with different functionalities. For Example, the administrative user will be able to set, modify and remove contest. But the normal user won't have the facility of this. They will only be permitted to participate in contests and solve problems.

4.0 Administrative User Module

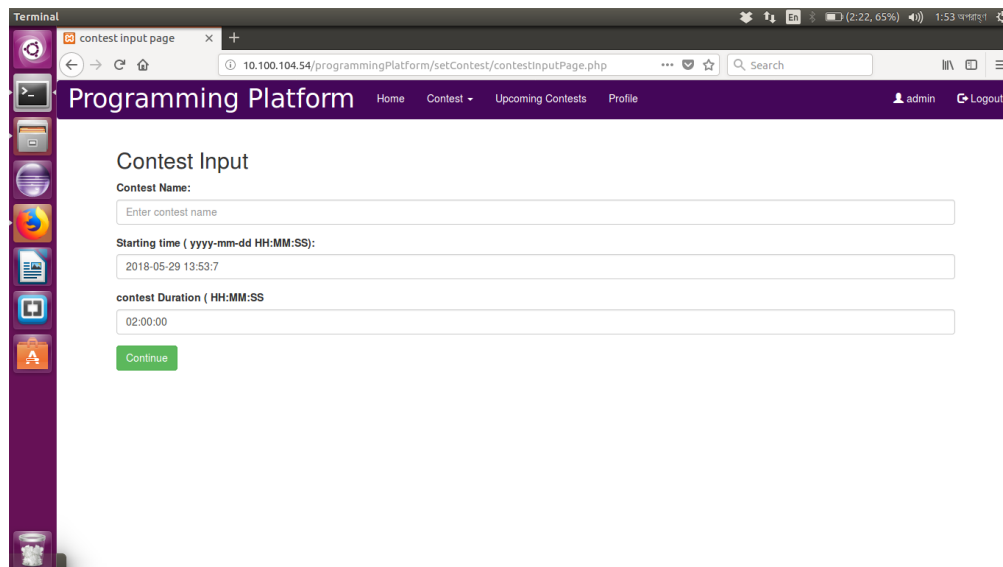
4.1 Login

For Administrative user to login to the system, the default username is "admin" and the default password is "1234". By using this username and password the administrative user will be logged in to the system.

4.2 Contest Management

4.2.1 Set Contest

For setting contest, the admin user needs to go to the set contest. Then the admin will have to set the contest name, starting time and the duration of the contest.



The screenshot shows a web browser window with the title "Terminal" and a tab labeled "contest input page". The address bar shows the URL "10.100.104.54/programmingPlatform/setContest/contestInputPage.php". The page has a purple header with the text "Programming Platform" and navigation links: "Home", "Contest", "Upcoming Contests", and "Profile". The user is logged in as "admin" and there is a "Logout" link. The main content area is titled "Contest Input" and contains three input fields: "Contest Name:" with a placeholder "Enter contest name", "Starting time (yyyy-mm-dd HH:MM:SS):" with the value "2018-05-29 13:53:7", and "contest Duration (HH:MM:SS)" with the value "02:00:00". A green "Continue" button is located below the input fields.

Figure 1: Set Contest

4.2.2 Set Problem

Then the admin will have to add problems to the contest. For adding problems to the contest the admin needs to set the problem name, time limit and also needs to upload the question file, input file and output file.

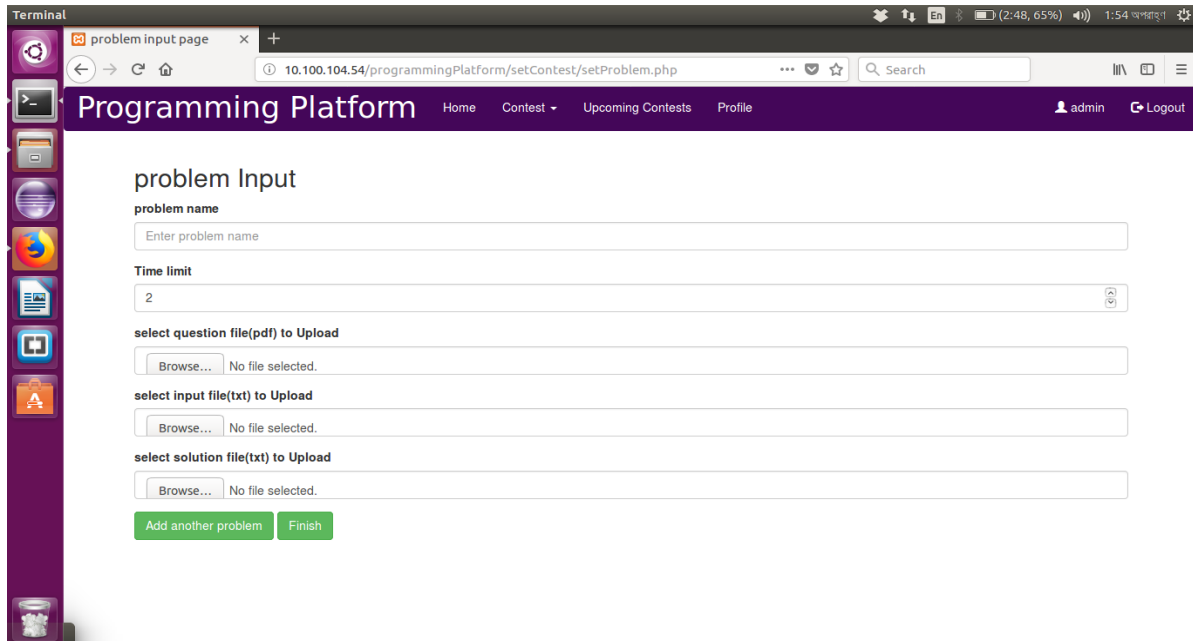


Figure 2: Set Problem

Then if the admin wants to add another problem then the admin needs to click the “Add another problem” button. If all the problems that need to be uploaded has been set then the admin needs to click the “Finish” button.

4.2.3 Remove Problem

For removing problems, the admin just needs to click the “Remove” button associated with the problem.

4.2.4 Modify Contest

For contest Modification, the admin needs to click the button “Edit”. Then the admin can modify the contest data.

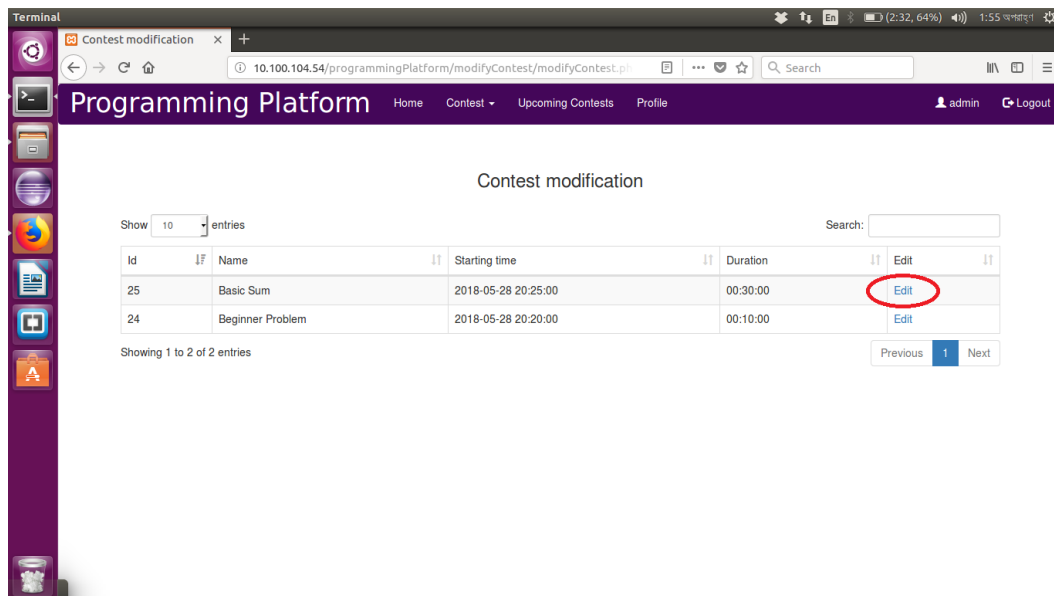


Figure 3: Edit Contest

4.2.5 Delete Contest

For deleting the contest, the admin needs to press the "Delete" button associated with the particular contest.

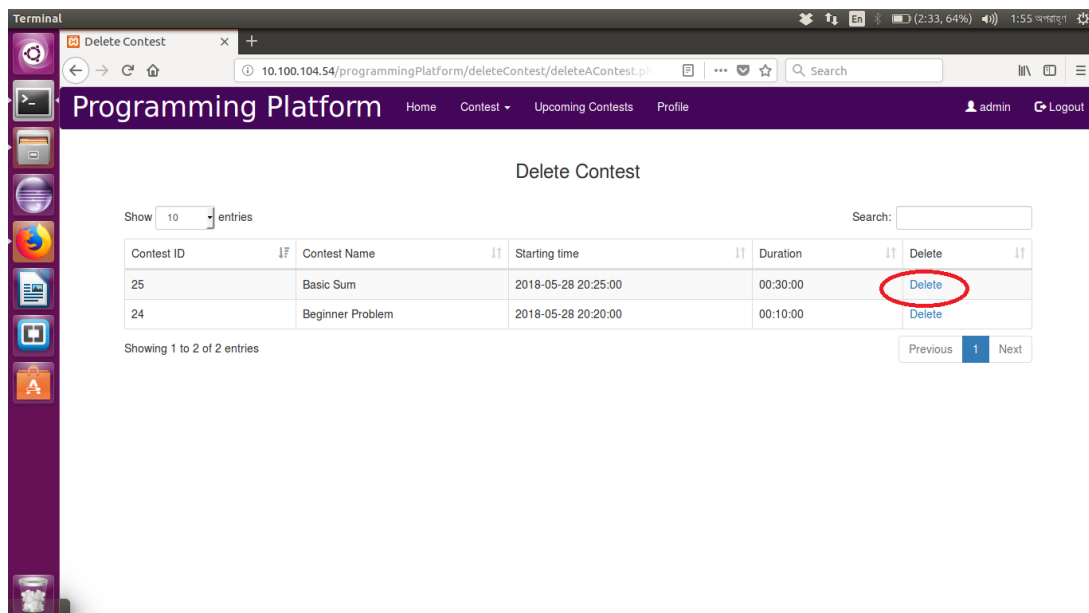


Figure 4: Delete Contest

4.3 User Profile

Admin user profile is same as the normal user profile which will be described in the following part of the document.

5.0 Normal User Module

5.1 Registration

A user needs to register to the system before s/he can start using the system.

For registration the user needs to fill the form represented below:

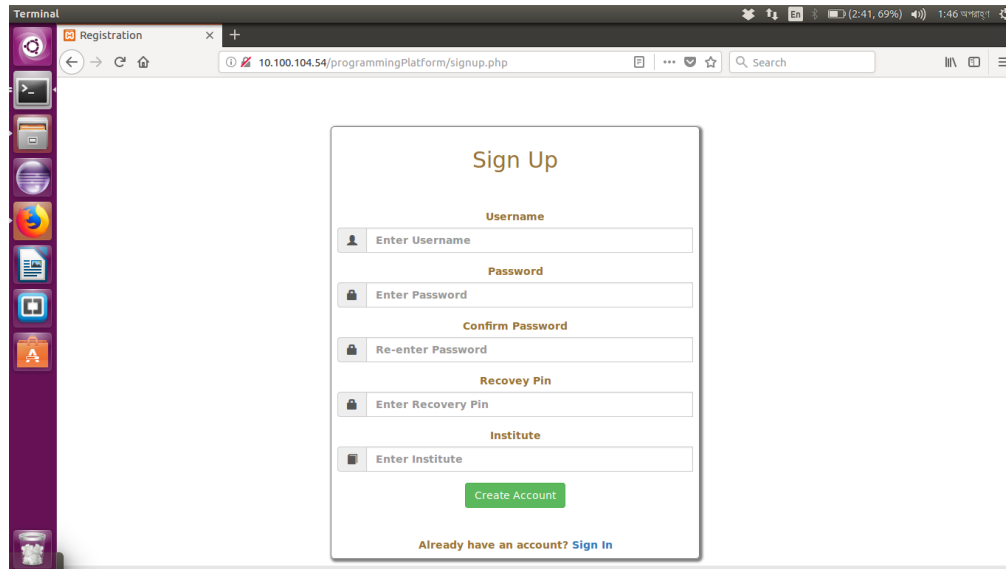
The image shows a web browser window with a single tab titled 'Registration'. The address bar displays the URL '10.100.104.54/programmingPlatform/signup.php'. The main content area features a 'Sign Up' form with the following fields: 'Username' (with a person icon), 'Password' (with a lock icon), 'Confirm Password' (with a lock icon), 'Recovery Pin' (with a lock icon), and 'Institute' (with a building icon). Each field has a placeholder text 'Enter [field name]'. Below the fields is a green 'Create Account' button. At the bottom of the form, there is a link that says 'Already have an account? Sign In'. The browser's status bar at the bottom shows system icons and the time '1:46'.

Figure 5: Sign Up

5.2 Login

The system can be accessed only if the user is logged in. For login the user needs to provide her/his username and password. Then s/he needs to click the sign in button. If the data match with the provided the data then the user will be logged into the system.

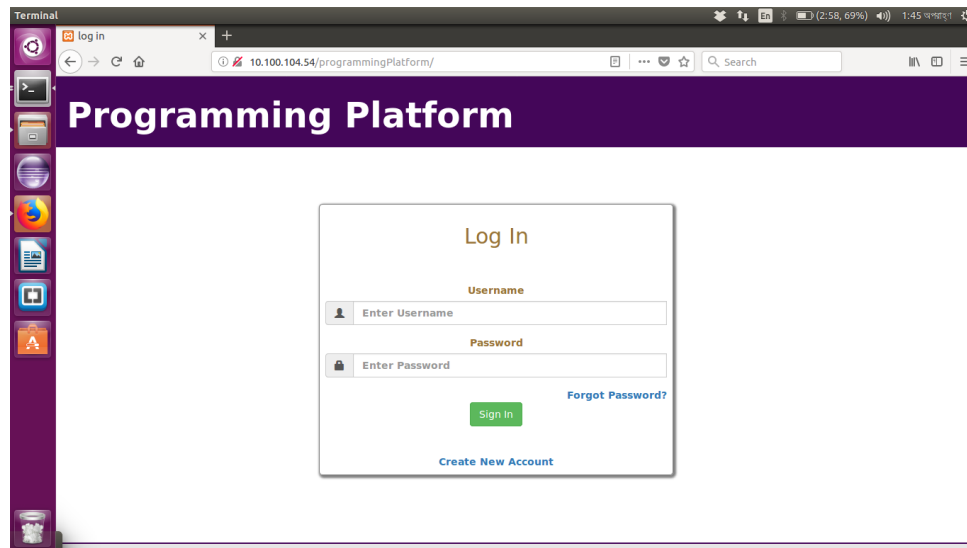


Figure 6: Login

5.3 Account Recovery

If the user forgets her/his password s/he can recover the account by the recovery pin. Then the user can change her/his password. Thus the user account can be recovered.

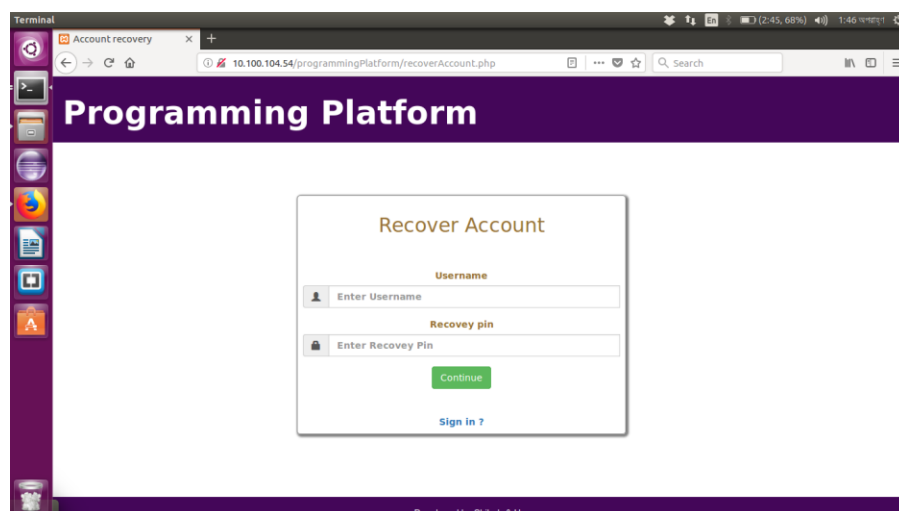


Figure 7: Account Recovery

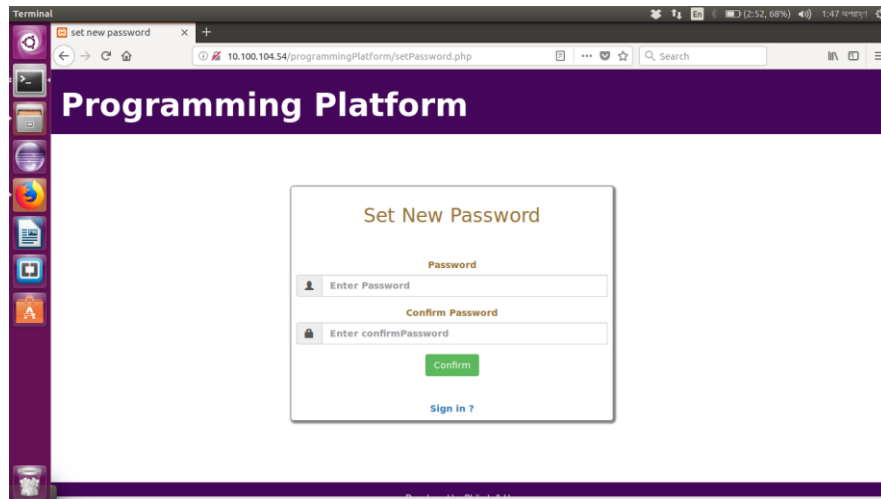


Figure 8: Password Change

5.4 User Profile

The user can see her/his user information by just clicking the username of the user located in the navigation bar.

The user can modify her/his profile by clicking the “Modify Profile” button.

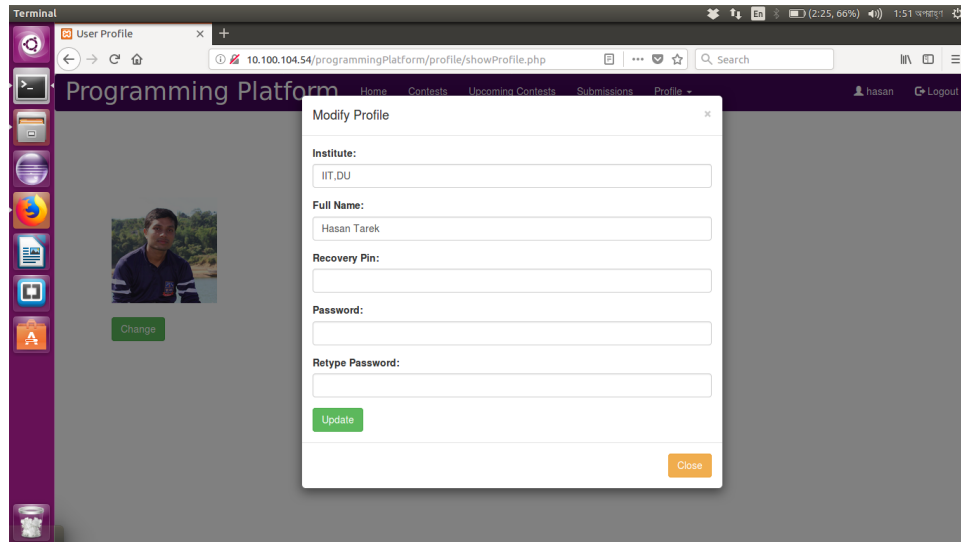


Figure 9: Modify Profile

The user can change her/his user profile picture by clicking the “Change” button.

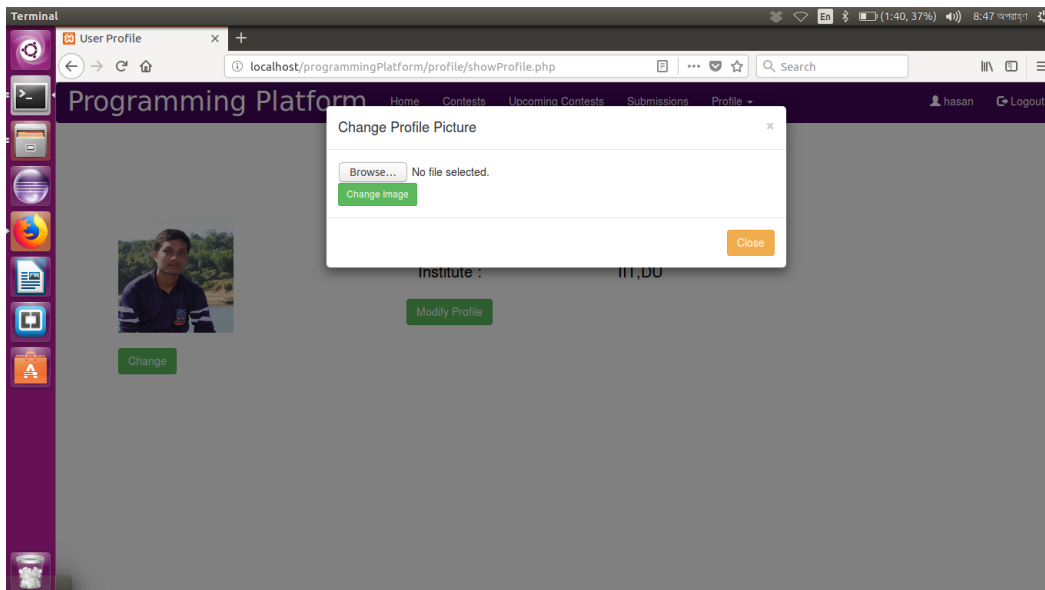


Figure 10: User Image Change

5.5 Contest

The user can see the contest list by just clicking the “Contest” button.

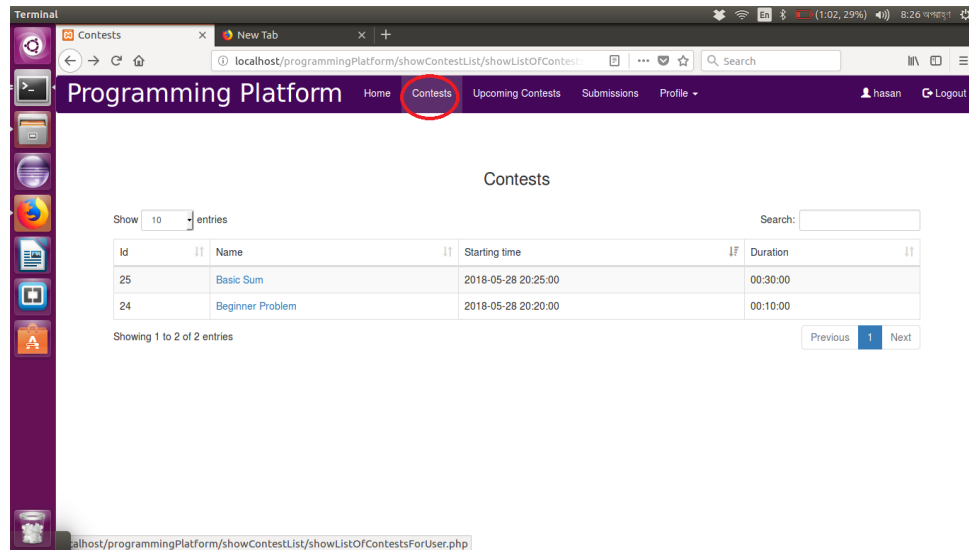


Figure 11: Contest

Then by selecting the contest, the user can see the problems of the contest. That is the problem list of the contest will be shown.

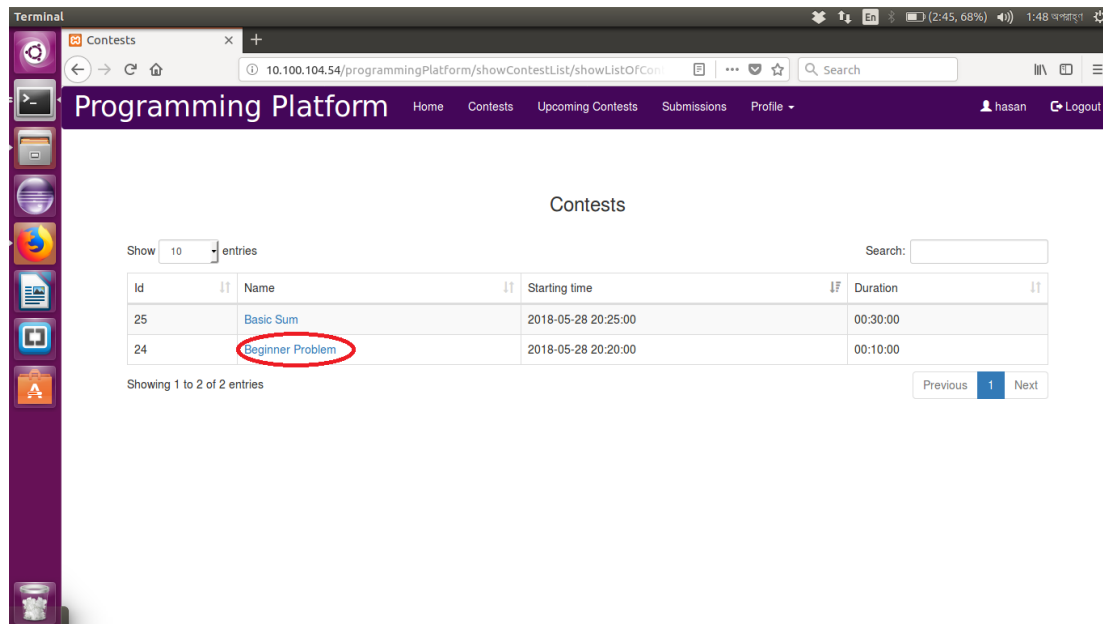


Figure 12: Particular Contest Access

Then the user will select the problem s/he wants to solve. S/he will be able to see the pdf version of the problem description. Then in that page s/he can

submit the solution code of the problem. For submitting the code the user needs to press the "Submit" button.

The screenshot shows a web interface for a programming problem. At the top, a purple navigation bar contains links: 'Contests', 'Upcoming Contests', 'Submissions', and 'Profile'. Below this, the problem title 'Problem name : Basic Sum' and 'Timelimit : 2 second' are displayed. The main content area, which is a zoomed-in view of the problem page, contains the following text:

Problem name : Basic Sum
Time limit : 2 second
Input : standard input
Output : standard output

Given two numbers x and y .show the result using this equation, $result = x+y$.

Input

The first line of the input contains a single integer n ($1 \leq n \leq 10$) and the following line contains two numbers x, y ($1 \leq x, y \leq 10^{100000}$).

Output

Print the n number of the output.

Examples

Input
1 12 20

Below the examples, there is a code editor with a language dropdown set to 'C' and a text area containing the placeholder text '/* Submit your code here */'. A blue 'Submit' button is located at the bottom right of the code editor.

Figure 13: Problem Description

Then the standing page of the problems submission will be showed.

Terminal submission list

10.100.104.54/programmingPlatform/submitAndRunCode/showSubmissions

Programming Platform Home Contests Upcoming Contests Submissions Profile

hasan Logout

Submissions

Show 10 entries Search:

Submission ID	Problem Name	Contest ID	User name	Compiler	Verdict	When
121	Sum of two friends input	25	hasan	C	Compilation error	2018-05-29 12:59:13
120	Sum of two friends input	25	Sabik	C	Compilation error	2018-05-29 12:48:16
119	Sum of two friends input	25	Sabik	C++	Accepted	2018-05-29 12:47:44
118	Sum of two friends input	25	Sabik	C	Accepted	2018-05-29 12:45:13
117	Sum of two friends input	25	Sabik	C	Compilation error	2018-05-29 12:43:49
116	Sum of two friends input	25	Sabik	C	Run Time Error	2018-05-29 12:42:26
115	Sum of two friends input	25	Sabik	C	Compilation error	2018-05-29 12:42:07
114	Sum of two friends input	25	shihab	C	Compilation error	2018-05-29 12:37:30
113	Basic Sum	24	olife	C++	Accepted	2018-05-28 20:29:34
112	Basic Sum	24	olife	C	Accepted	2018-05-28 20:29:07

Showing 1 to 10 of 109 entries

Previous 1 2 3 4 5 ... 11 Next

Figure 14: Submission Standings

Every contest has a rank list. For every contest there will be a “Rank” button in the navigation bar. By clicking that button rank of a contest will be shown.

Terminal Rank

10.100.104.54/programmingPlatform/submitAndRunCode/showRank.p

Programming Platform Home Contests Upcoming Contests Rank Submissions Profile

hasan Logout

Rank List

Show 10 entries Search:

Contest ID	User Name	Problem solved	Timestamp
24	shihab	2	2018-05-28 20:28:13
24	jamil	1	2018-05-28 19:48:20
24	olife	1	2018-05-28 20:29:07
24	hasan	0	2018-05-28 20:21:09

Showing 1 to 4 of 4 entries

Previous 1 Next

Figure 15: Rank

The user can see the upcoming contests by clicking the “Upcoming Contest” button in the navigation bar.

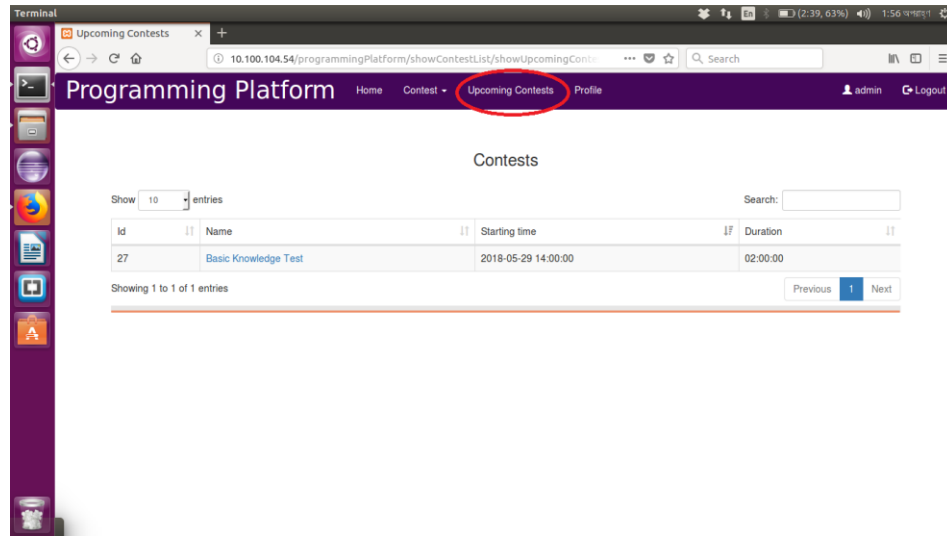


Figure 16: Upcoming Contest

By clicking the "Submission" button the user can see the submissions of all users.

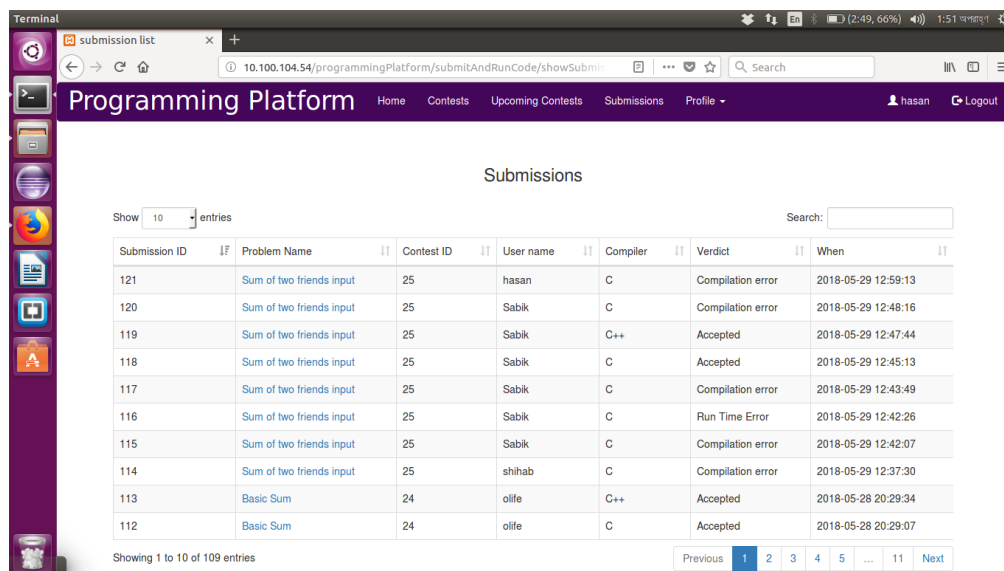


Figure 17: All Submissions

The user can see her/his submission by clicking the "My Submission" button under the Profile dropdown.

Terminal

submission list

10.100.104.54/programmingPlatform/profile/showSubmissionListForA...

Search

Programming Platform

Home Contests Upcoming Contests Submissions Profile

hasan Logout

My Submissions

Show 10 entries

Search:

Submission ID	Problem Name	Contest ID	User name	Compiler	Verdict	When
121	Sum of two friends input	25	hasan	C	Compilation error	2018-05-29 12:59:13
109	Basic Multiplication	24	hasan	C	Accepted	2018-05-28 20:26:37
108	Basic Sum	24	hasan	C	Wrong Answer	2018-05-28 20:25:56
107	Basic Multiplication	24	hasan	C	Accepted	2018-05-28 20:21:09
98	Lovely Palindrome	24	hasan	C	Compilation error	2018-05-28 19:44:35
97	Basic Multiplication	24	hasan	C++	Accepted	2018-05-28 19:44:01
96	Basic Multiplication	24	hasan	C	Wrong Answer	2018-05-28 19:43:43
95	Basic Multiplication	24	hasan	C	Compilation error	2018-05-28 19:43:30
94	Basic Multiplication	24	hasan	C	Accepted	2018-05-28 19:43:15
93	Basic Sum	24	hasan	C++	Accepted	2018-05-28 19:42:28

Showing 1 to 10 of 63 entries

Previous 1 2 3 4 5 6 7 Next

Figure 18: Personal Submissions