

Group ID: 1.9

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**DATABASE Title** - Database for online competitive programming platform.

### **Scope of the Database**

It involves keeping the records of all the competitors participating in online contests: like Competitions participated, which describes the different competitions in which the competitor has participated .LeaderBoard , which shows the overall ranking of the competitor in all the contests. Achievements , Countries etc.

### **Description**

There are various contests held on online coding sites on regular basis. Coders from different **institutions and companies** and from different **countries** show their coding skills on the platform.

**User's profile** contains the personal details of the user like his/her name, institution name ,country ,preferred coding language ,his/her performance and achievements in various competitions . In short, it displays his/her overall performance, till date.

Participants have to sign up by choosing a unique User name and then they can make their profile. Before every contest the participant has to **register** in the **contest**. They can also review their past submissions in earlier contests. Users are also allowed to **follow their friends** so that they can remain updated about their friends movements on the platform , like in which competitions they participated , how many questions did they solved today etc.

Every student is provided with a **dashboard** which contains list of upcoming and ongoing contests and also a column for practice set.

We have different category of **questions** like Dynamic Programming , Binary Search , Greedy Algorithm etc and also a number of questions on every category with increasing level of difficulty like easy , medium , hard and expert. Every question has a unique ID. These questions are automatically added to the practice set after the contest is over.

**Leaderboard** displays the overall ranking of the participants for a particular contest. We can also review other contestant's score and his/her standing.

## **Entities and Attributes**

**User profile** : Handle(Username), age, country, institution, city, programming languages, followers, following, all over rating, status, etc.

**Contest** : ContestID, Contest name, starting date, starting time, end time, ending date, Creator(Handle) etc.

**Register** : ContestID, Handle, registration time, etc.

**Questions** : ContestID, QuestionID, category, maximum score, difficulty level, etc.

**Leaderboard** : ContestID, Handle, standing, etc.

**Submission** : submissionID, ContestID, QuestionID, Handle, submission time, score, language, etc.

**Country** : Country Name, Institution Name, City.

## **SAMPLE QUERIES :**

- List of all the coders group by institutions from "India".
- Most rated coder.
- Which institute in the world has best coders?
- In which category of questions coders are most comfortable? and least comfortable?
- The Coder who has participated in most contest?
- How many users participated in particular contest?
- How many users were able to solve a particular question from a particular contest?
- What is the ratio of participating coders to that of a registered coders?
- List of winners from year 2014 to year 2017.



