

**Group No. 16**

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## **Online Learning Platform Management System**

### **❖ Scope of Database :-**

- There is an online learning platform which provides different online courses to students taught by different educators/mentors. Courses can be either live(paid) or recorded(free).
- Some companies also provide courses on this platform by collaborating with this platform.
- At the end of the live course, students can give an online exam to get a certificate for that course.

### **❖ Description/Requirements :-**

#### **(1) Entities :**

- Each student has a SID, name, contact number, Email ID, city, gender and password to login into the platform.
- Platform provides courses from different domains and each domain has a unique DID and name.
- Each educator has a unique EID, name, Email ID, rating, work experience and qualification.
- Platform provides so many courses uniquely identified by CID. Each course has a name, type, rating, type of course, prerequisite skills, providing skills and no. of lessons in that course.
- Each live course has fees, starting date and ending date.

- Each recorded course has an estimated time to complete it.
- Live courses follow a timetable for their live lectures. This time table has a starting time, ending time and week days.
- Platform stores payment data for each course enrolled by each student which has PID, date and time of payment and amount.
- Platform asks students for some feedback for each course which they have completed. It has rating for course, rating for educator and comments.
- Platform takes an online exam after completion of that live course. It has exam ID, exam date, exam timing, total marks and passing marks for certificates.
- Platform releases the result of each exam and provides a certificate for that live course if a student has passed the exam. It has a result status(pass/fail) and certificate ID.
- Platform stores data of companies which provide courses on this platform which have company names.

## **(2) Relationship :**

- Students can learn from as many courses as they want and each course can be learnt by more than one student.
- Educators can teach different courses but one course must be taught by only one educator.
- Each course belongs to only one domain but the domain may have more than one course.
- One student can only write one feedback for each course but more than one student can write feedback for more than one course.
- Live course and recorded course has is-a relationship with course.
- Students can take as many live courses as they want and each course can be taken by more than one student.
- Each live course has only one exam.
- One student can give more than one exam and the exam can be given by more than one student.
- Educators can be a part of a company or this platform.
- All live courses follow a weekly time table for the live classes.

- Students have to pay enrolment fees one time for each live course.
- Students can only get one result for each exam. So, students can only get one or no certificate for one course.

### ❖ Queries :-

- Find the name of the course taught by an educator whose EID=5.
- Find Email IDs of educators working in Google.
- Find the names of the cities of students who have taken the course which has CID=ML101.
- Find contact numbers of all female students.
- Find the name of all the courses which belong to the domain “Competitive programming”.
- Find the total number of students who have taken a course on “DSA in c++”.
- Find rating for an educator having eid=2.
- Find the name of domains which have more than 2 courses.
- Find the name of the courses which have more fees than the average fees for all live courses.
- Find the total number of live courses held on Tuesdays or Fridays.
- Find the name of the student who has taken the maximum number of courses.
- Find the total number of students who have passed the exam for a live course which has live\_id=MA104.
- Find the name of companies which have educators with less experience than the average experience of all educators.
- Find the total number of girl students who have got at least 1 certificate.
- Find the total number of providing skills for each course having more no. of lessons than average number of lessons for all courses.
- Find the list of students who have taken all the recorded courses.
- Find the list of educators who have taught all the courses which have “Basic Java” as a prerequisite.
- Find the list of students who have given feedback for all the courses which they have taken.

- Find the list of students who have passed all the exams which they have given.
- Find the list of live courses which have at least 3 hours of live classes every week.
- Find the list of students who have taken all the courses from the 'Applied Mathematics' domain.
- Find the list of students who have not taken any live course after october 2020.
- Find the total amount of payment done by students whose name starts with A.
- Give the list of courses in their descending order of rating.
- Find the list of companies which have provided only live courses and not recorded.