DBMS Lab 2017-18 Spring Semester

Lab Day 6 (February 13, 2018) – 30 Marks

1. Consider that we have the following tables in a database (primary keys are underlined):

   Student (<u>roll_no</u> int, student_name varchar(30) not null, year_of_admission int, dept_cd char(2) not null, cgpa decimal(5,2), percentage_marks decimal(5,2), hall_cd char(2))

   Course (<u>course_cd</u> char(5), course_name varchar(30) not null, credits int not null, max_marks decimal(5,2) not null, dept_cd char(2) not null)

   Registration (<u>roll_no int, course_cd char(5)</u>, grade_point int, marks_obtained decimal(5,2))

   ODD PC Nos.

   Write a trigger on the Registration table so that whenever there is a change in the rows (insert, update, delete), the column value for **CGPA** will be updated in the Student table.

   EVEN PC Nos.

   Write a trigger on the Registration table so that whenever there is a change in the rows (insert, update, delete), the column value for **percentage_marks** will be updated in the Student table.   **[10]**

2. Consider the same tables used in Problem 1.

   ODD PC Nos.

   Write a database procedure that will take a roll_no as input and update the column value for **CGPA** in the Student table. It will also return the CGPA.

   EVEN PC Nos.

   Write a database procedure that will take a roll_no as input and update the column value for **percentage_marks** in the Student table. It will also return the percentage_marks.   **[10]**

3. Consider that we have the following table in a database (primary key is underlined):

   Employee (<u>emp_cd int</u>, manager_emp_cd int)

   Assume that the seniormost manager will have his/her own emp_cd as his/her manager_emp_cd

   ODD PC Nos.

   Write a recursive query which will take an emp_cd as input (e.g., emp_cd = 5) and return one row for each reporting manager higher in the hierarchy starting from the input emp_cd.

   EVEN PC Nos.

   Write a recursive query which will take an emp_cd as input (e.g., emp_cd = 5) and return one row for each reportee lower in the hierarchy starting from the input emp_cd.   **[10]**

Through Moodle, submit a file containing your SQL and PL/SQL statements. (Name it as Lab6_<Roll_no>.sql).