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**Reg. No.: 2148025 MDS 171 – Database Technologies**

**EXECUTING SQL QUERIES TO PERFORM VARIOUS ACTIONS ON A UNIVERSITY SCHEMA**

**Instructor (Instructor\_id, Name, Designation, Dept\_name)**

**Student (Stud\_id, Name, DOB, Dept\_name, Tot\_credit (Default value is 0))**

1. **Create the above two tables for an OLAP applications.**

CREATE TABLE INSTRUCTOR(INST\_ID NUMBER(38),INST\_NAME VARCHAR(38),DESIGNATION VARCHAR(38),DEPT\_NAME VARCHAR(38));

CREATE TABLE STUDENT(STUD\_ID NUMBER(38),STUD\_NAME VARCHAR(38),DOB DATE,DEPT\_NAME VARCHAR(38),TOT\_CREDIT NUMBER(4) DEFAULT 0);

1. **Insert the necessary values to execute the following queries.**

INSERT INTO STUDENT (STUD\_ID,STUD\_NAME,DOB,DEPT\_NAME,TOT\_CREDIT) VALUES (2148025,'SHIVAM','25-FEB-98','COMPUIER-SCIENCE',98);

INSERT INTO STUDENT (STUD\_ID,STUD\_NAME,DOB,DEPT\_NAME,TOT\_CREDIT) VALUES (2148002,'ASWIN','02-APR-97','PHYSICS',108);

INSERT INTO STUDENT (STUD\_ID,STUD\_NAME,DOB,DEPT\_NAME,TOT\_CREDIT) VALUES (2148045,'AISHWARYA','16-DEC-97','MATHS',105);

INSERT INTO STUDENT (STUD\_ID,STUD\_NAME,DOB,DEPT\_NAME,TOT\_CREDIT) VALUES (2148013,'KOMAL','31-MAR-99','PHYSICS',90);

INSERT INTO STUDENT (STUD\_ID,STUD\_NAME,DOB,DEPT\_NAME,TOT\_CREDIT) VALUES (2148019,'SAHIL','05-FEB-98','COMPUTER-SCIENCE',48);

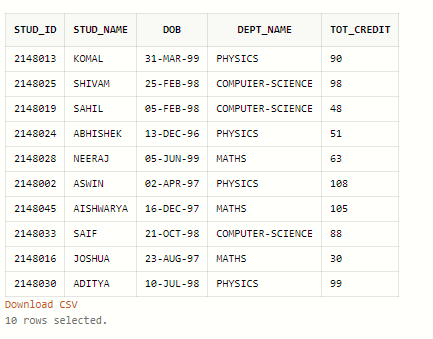
INSERT INTO STUDENT (STUD\_ID,STUD\_NAME,DOB,DEPT\_NAME,TOT\_CREDIT) VALUES (2148033,'SAIF','21-OCT-98','COMPUTER-SCIENCE',88);

INSERT INTO STUDENT (STUD\_ID,STUD\_NAME,DOB,DEPT\_NAME,TOT\_CREDIT) VALUES (2148024,'ABHISHEK','13-DEC-96','PHYSICS',51);

INSERT INTO STUDENT (STUD\_ID,STUD\_NAME,DOB,DEPT\_NAME,TOT\_CREDIT) VALUES (2148016,'JOSHUA','23-AUG-97','MATHS',30);

INSERT INTO STUDENT (STUD\_ID,STUD\_NAME,DOB,DEPT\_NAME,TOT\_CREDIT) VALUES (2148028,'NEERAJ','05-JUN-99','MATHS',63);

INSERT INTO STUDENT (STUD\_ID,STUD\_NAME,DOB,DEPT\_NAME,TOT\_CREDIT) VALUES (2148030,'ADITYA','10-JUL-98','PHYSICS',99);



INSERT INTO INSTRUCTOR(INST\_ID,INST\_NAME,DESIGNATION,DEPT\_NAME) VALUES (202101,'PROF. NEETHU','ASSOCIATE PROFESSOR','PHYSICS');

INSERT INTO INSTRUCTOR(INST\_ID,INST\_NAME,DESIGNATION,DEPT\_NAME) VALUES (202111,'PROF. PIYAL','ASSISTANT PROFESSOR','MATHS');

INSERT INTO INSTRUCTOR(INST\_ID,INST\_NAME,DESIGNATION,DEPT\_NAME) VALUES (202121,'PROF. VARUN','PROFESSOR','COMPUTER-SCIENCE');

INSERT INTO INSTRUCTOR(INST\_ID,INST\_NAME,DESIGNATION,DEPT\_NAME) VALUES (202112,'PROF. RAINA','ASSOCIATE PROFESSOR','MATHS');

INSERT INTO INSTRUCTOR(INST\_ID,INST\_NAME,DESIGNATION,DEPT\_NAME) VALUES (202123,'PROF. NAGRAJ','ASSISTANT PROFESSOR','COMPUTER-SCIENCE');

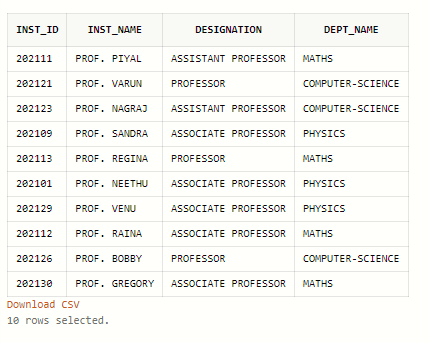
INSERT INTO INSTRUCTOR(INST\_ID,INST\_NAME,DESIGNATION,DEPT\_NAME) VALUES (202129,'PROF. VENU','ASSOCIATE PROFESSOR','PHYSICS');

INSERT INTO INSTRUCTOR(INST\_ID,INST\_NAME,DESIGNATION,DEPT\_NAME) VALUES (202109,'PROF. SANDRA','ASSOCIATE PROFESSOR','PHYSICS');

INSERT INTO INSTRUCTOR(INST\_ID,INST\_NAME,DESIGNATION,DEPT\_NAME) VALUES (202113,'PROF. REGINA','PROFESSOR','MATHS');

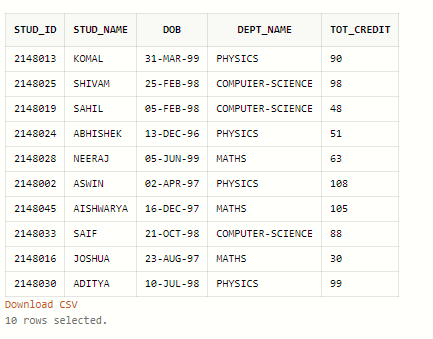
INSERT INTO INSTRUCTOR(INST\_ID,INST\_NAME,DESIGNATION,DEPT\_NAME) VALUES (202130,'PROF. GREGORY','ASSOCIATE PROFESSOR','MATHS');

INSERT INTO INSTRUCTOR(INST\_ID,INST\_NAME,DESIGNATION,DEPT\_NAME) VALUES (202126,'PROF. BOBBY','PROFESSOR','COMPUTER-SCIENCE');



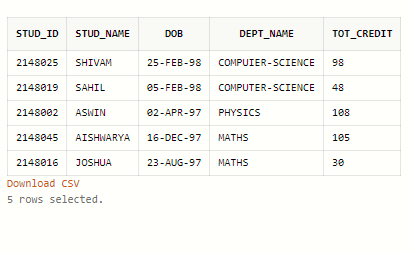
1. **Display the details of students of the University.**

SELECT \* FROM STUDENT;



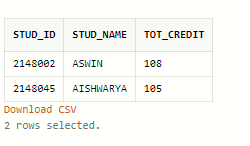
1. **Display the list of students of the University who born between 10 th March 1997 and 10 th March1998.**

SELECT \* FROM STUDENT WHERE DOB BETWEEN '10-MAR-1997' AND '10-MAR-1998';



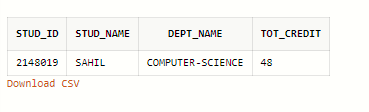
1. **Display the Names of the students along with their ID who have secured more than 100 credits.**

SELECT STUD\_ID,STUD\_NAME,TOT\_CREDIT FROM STUDENT WHERE TOT\_CREDIT > 100;



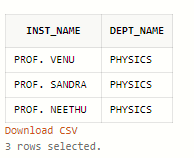
1. **Display the Names of the students along with their ID who have secured less than 50 credits and belongs to Computer Science department.**

SELECT STUD\_ID,STUD\_NAME,DEPT\_NAME,TOT\_CREDIT FROM STUDENT WHERE TOT\_CREDIT < 50 AND DEPT\_NAME='COMPUTER-SCIENCE';



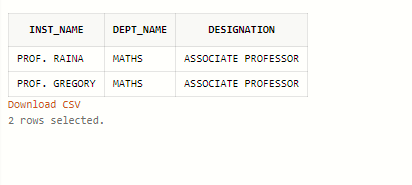
1. **Display the name of the Instructors who are working for the department of physics.**

SELECT INST\_NAME,DEPT\_NAME FROM INSTRUCTOR WHERE DEPT\_NAME='PHYSICS';



1. **Display the name of the associate professors working for the department of maths.**

SELECT INST\_NAME,DEPT\_NAME,DESIGNATION FROM INSTRUCTOR WHERE DEPT\_NAME='MATHS' AND DESIGNATION='ASSOCIATE PROFESSOR' ;



1. **Add the Basic\_Pay, HRA and Gross\_Salary columns into the instructor table AND insert the value for that**

ALTER TABLE INSTRUCTOR ADD BASIC\_PAY NUMBER(38);

ALTER TABLE INSTRUCTOR ADD HRA NUMBER(38);

ALTER TABLE INSTRUCTOR ADD GROSS\_SALARY NUMBER(38);

UPDATE INSTRUCTOR SET BASIC\_PAY = 20000 WHERE INST\_NAME='PROF. VARUN';

UPDATE INSTRUCTOR SET BASIC\_PAY = 28000 WHERE INST\_NAME='PROF. SANDRA';

UPDATE INSTRUCTOR SET BASIC\_PAY = 21000 WHERE INST\_NAME='PROF. REGINA';

UPDATE INSTRUCTOR SET BASIC\_PAY = 19500 WHERE INST\_NAME='PROF. NEETHU';

UPDATE INSTRUCTOR SET BASIC\_PAY = 30000 WHERE INST\_NAME='PROF. GREGORY';

UPDATE INSTRUCTOR SET BASIC\_PAY = 20000 WHERE INST\_NAME='PROF. RAINA';

UPDATE INSTRUCTOR SET BASIC\_PAY = 21500 WHERE INST\_NAME='PROF. NAGRAJ';

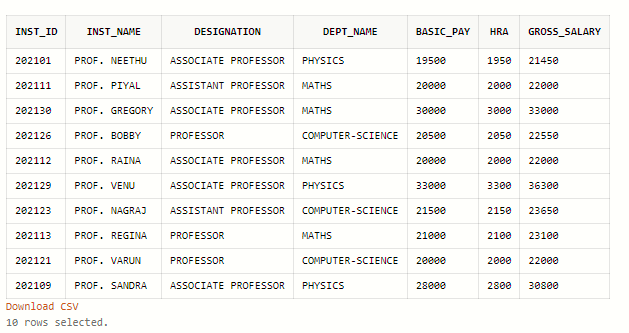
UPDATE INSTRUCTOR SET BASIC\_PAY = 33000 WHERE INST\_NAME='PROF. VENU';

UPDATE INSTRUCTOR SET BASIC\_PAY = 20500 WHERE INST\_NAME='PROF. BOBBY';

UPDATE INSTRUCTOR SET BASIC\_PAY = 20000 WHERE INST\_NAME='PROF. PIYAL';

UPDATE INSTRUCTOR SET HRA = 0.1\*BASIC\_PAY;

UPDATE INSTRUCTOR SET GROSS\_SALARY = HRA+BASIC\_PAY;



1. **Change the data type of the any existing column in table.**

**a. Numeric to alphanumeric**

**b. Increase and decrease the size the columns**

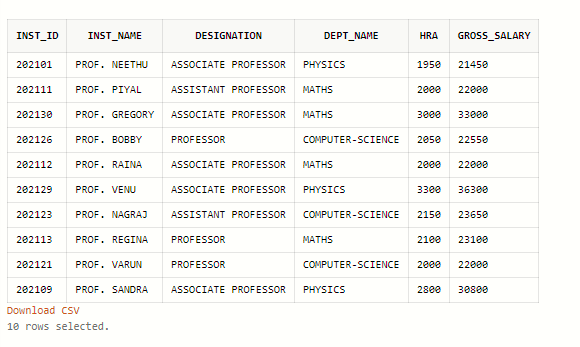
ALTER TABLE INSTRUCTOR MODIFY (PHONE\_NUM CHAR(38));

ALTER TABLE INSTRUCTOR MODIFY (PHONE\_NUM CHAR(20));

ALTER TABLE INSTRUCTOR MODIFY (PHONE\_NUM CHAR(45));

1. **Drop the column “Basic\_Pay” and evaluate the changes happened in the updated values.**

ALTER TABLE INSTRUCTOR DROP COLUMN BASIC\_PAY;



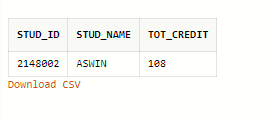
**13.Create a table Student\_Regno with the values(Name and stud\_id) taken from Student table**

CREATE TABLE STUDENT\_REG AS SELECT STUD\_NAME,STUD\_ID FROM STUDENT;



**14.List the Student ID and Student Name along with their Total Credit who has secured 1 st Rank based on the total credits the student scored.**

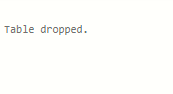
SELECT STUD\_ID,STUD\_NAME,TOT\_CREDIT FROM STUDENT where TOT\_CREDIT=(SELECT MAX(TOT\_CREDIT) from STUDENT);



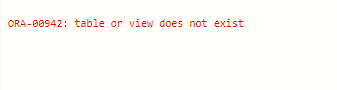
**15.Demonstrate Drop and Truncate command.**

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DROP TABLE STUDENT\_REG;



SELECT \* FROM STUDENT\_REG;



TRUNCATE TABLE STUDENT\_REG;

TRUNC

SELECT \* FROM STUDENT\_REG;

