

## Lab Assignment-1

### Create the following tables

Course(course\_no char(4), course\_name varchar(20))

Course\_fee(course\_no char(4), full\_part char(1) (F/P), fees number(10))

course\_no and full\_part should be unique

Student(prospectus\_no number(10), name varchar(20), address varchar(30), phone\_no number(11), D\_O\_B date, total\_amt number(10,2), amt\_paid number(10,2), installment char(1) (I/F))

Installment(prospectus\_no number(10) (foreign key) on delete cascade, installment\_amt number(10,2), due\_dt date, paid char(1) (P,U))

prospectus\_no and due\_dt should be unique

Course\_taken(prospectus\_no number(10) (foreign key), course\_no char(4), start\_dt date, full\_part char(1) (F/P), time\_slot char(2), performance varchar(20))

### Queries and Outputs of the Table:

```
mysql> create table Course(course_no char(4) primary key, course_name varchar(20));
Query OK, 0 rows affected (0.01 sec)
```

```
mysql> insert into course values('c1','DBMS');
Query OK, 1 row affected (0.01 sec)
```

```
mysql> insert into course values('c2','ADA');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into course values('c3','JAVA');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into course values('c4','C++');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into course values('c5','EN');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into course values('c6','C');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into course values('c7','R');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into course values('c8','BEE');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into course values('c9','DECO');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into course values('c10','MATH');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> select * from course;
```

course_no	course_name
c1	DBMS
c10	MATH
c2	ADA
c3	JAVA
c4	C++
c5	EN
c6	C
c7	R
c8	BEE
c9	DECO

```
10 rows in set (0.00 sec)
```

```
mysql> create table course_fee(course_no char(4) primary key, full_part char(1), fees numeric
(10), foreign key(course_no) references course(course_no), check(full_part='F' or full_part='
P'));
```

```
Query OK, 0 rows affected (0.01 sec)
```

```
mysql> insert into course_fee values('c1','F',10000);
```

```
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into course_fee values('c2','P',40000);
```

```
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into course_fee values('c3','F',6000);
```

```
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into course_fee values('c4','P',12000);
```

```
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into course_fee values('c5','P',10000);
```

```
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into course_fee values('c6','F',23000);
```

```
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into course_fee values('c7','F',98600);
```

```
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into course_fee values('c8','F',87000);
```

```
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into course_fee values('c9','P',695000);
```

```
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into course_fee values('c10','F',3000);
Query OK, 1 row affected (0.00 sec)
```

```
mysql> select * from course_fee;
```

course_no	full_part	fees
c1	F	10000
c10	F	3000
c2	P	40000
c3	F	6000
c4	P	12000
c5	P	10000
c6	F	23000
c7	F	98600
c8	F	87000
c9	P	695000

```
10 rows in set (0.00 sec)
```

```
mysql> create table student(prospectus_no numeric(11) primary key, st_name varchar(20), address varchar(30), phone_no numeric(11), D_O_B date, total_amt numeric(10,2), amt_paid numeric(10,2), installment char(1), check(installment='I' or installment='F'))
;
Query OK, 0 rows affected (0.01 sec)
```

```
mysql> insert into student values(32456,'Sanskriti','Delhi',9876899910,date'2003-02-27',20000,10000,'I');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into student values(42849,'Saumya','Delhi',9698270918,date'1995-11-29',20000,20000,'I');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into student values(32345,'Parth','Mumbai',7298190145,date'2000-02-18',40000,6000,'F');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into student values(42345,'Arnav','Bangalore',9278190187,date'1999-05-10',120000,12000,'F');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into student values(52345,'Samiksha','Mumbai',7187298605,date'2000-01-15',120000,12000,'F');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into student values(89172,'Hardik','Chennai',8920186528,date'1995-08-07',679893,60000,'F');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into student values(76289,'Lakshay','Jaipur',8729017345,date'2002-04-09',34000,30000,'I');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into student values(23487,'Rohan','Mumbai',9817829076,date'2001-11-11',78653,8000,'F');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into student values(91829,'Harshita','Chennai',9879276422,date'2002-03-14',65000,7500,'I');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into student values(28397,'Manvi','Bangalore',9810255632,date'2001-08-22',20000,20000,'I');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into student values(65784,'Shaurya','Delhi',9917289015,date'2000-09-21',10620,2300,'F');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> select * from student;
```

prospectus_no	st_name	address	phone_no	D_O_B	total_amt	amt_paid	installment
23487	Rohan	Mumbai	9817829076	2001-11-11	78653.00	8000.00	F
28397	Manvi	Bangalore	9810255632	2001-08-22	20000.00	20000.00	I
32345	Parth	Mumbai	7298190145	2000-02-18	40000.00	6000.00	F
32456	Sanskriti	Delhi	9876899910	2003-02-27	20000.00	10000.00	I
42345	Arnav	Bangalore	9278190187	1999-05-10	120000.00	12000.00	F
42849	Saumya	Delhi	9698270918	1995-11-29	20000.00	20000.00	I
52345	Samiksha	Mumbai	7187298605	2000-01-15	120000.00	12000.00	F
65784	Shaurya	Delhi	9917289015	2000-09-21	10620.00	2300.00	F
76289	Lakshay	Jaipur	8729017345	2002-04-09	34000.00	30000.00	I
89172	Hardik	Chennai	8920186528	1995-08-07	679893.00	60000.00	F
91829	Harshita	Chennai	9879276422	2002-03-14	65000.00	7500.00	I

```
11 rows in set (0.00 sec)
```

```
mysql> create table installment(prospectus_no numeric(10) unique, installment_amt numeric(10,2), due_dt date unique, paid char(1), foreign key(prospectus_no) references student(prospectus_no) on delete cascade, check(paid='P' or paid='U'));
Query OK, 0 rows affected (0.02 sec)
```

```
mysql> insert into installment values(32456, 50000 ,date'2023-01-01','U');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into installment values(42849, 20000 ,date'2023-02-01','P');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into installment values(32345, 150000 ,date'2023-03-01','P');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into installment values(42345, 120000 ,date'2023-04-01','U');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into installment values(52345, 60000 ,date'2023-05-01','U');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into installment values(89172, 60000 ,date'2023-04-27','U');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into installment values(76289, 98000 ,date'2022-12-24','U');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into installment values(23487, 56800 ,date'2022-11-14','P');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into installment values(91829, 78900 ,date'2023-09-07','P');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into installment values(28397, 897200 ,date'2023-07-25','U');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> ^C
```

```
mysql> insert into installment values(65784, 45790 ,date'2022-12-29','U');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> select * from installment;
```

prospectus_no	installment_amt	due_dt	paid
32456	50000.00	2023-01-01	U
42849	20000.00	2023-02-01	P
32345	150000.00	2023-03-01	P
42345	120000.00	2023-04-01	U
52345	60000.00	2023-05-01	U
89172	60000.00	2023-04-27	U
76289	98000.00	2022-12-24	U
23487	56800.00	2022-11-14	P
91829	78900.00	2023-09-07	P
28397	897200.00	2023-07-25	U
65784	45790.00	2022-12-29	U

```
11 rows in set (0.00 sec)
```

```
mysql> create table Course_taken(prospectus_no numeric(10), course_no char(4), start_dt date,
full_part char(1), time_slot char(2), performance varchar(20), foreign key(prospectus_no) RE
FERENCES STUDENT(prospectus_no), foreign key(course_no) references course(course_no), check(f
ull_part='F' or full_part='P'));
Query OK, 0 rows affected (0.01 sec)
```

```
mysql> insert into Course_taken values(32456, 'c1', date'2021-09-29', 'F', 'AN','GOOD');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> ^C
```

```
mysql> insert into Course_taken values(42849, 'c2', date'2021-05-23', 'F', 'FN','GOOD');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into Course_taken values(32345, 'c3', date'2021-08-19', 'F', 'FN','BAD');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into Course_taken values(42345, 'c4', date'2021-03-23', 'P', 'AN','GOOD');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into Course_taken values(89172, 'c1', date'2021-07-14', 'F', 'AN','BAD');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into Course_taken values(76289, 'c3', date'2021-05-23', 'P', 'FN','GOOD');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into Course_taken values(23487, 'c2', date'2021-04-16', 'P', 'AN','BAD');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into Course_taken values(91829, 'c5', date'2021-07-13', 'F', 'FN','BAD');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into Course_taken values(28397, 'c9', date'2021-11-17', 'F', 'FN','GOOD');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> insert into Course_taken values(65784, 'c10', date'2021-12-12', 'P', 'AN','GOOD');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> select * from Course_taken;
```

prospectus_no	course_no	start_dt	full_part	time_slot	performance
32456	c1	2021-09-29	F	AN	GOOD
42849	c2	2021-05-23	F	FN	GOOD
32345	c3	2021-08-19	F	FN	BAD
42345	c4	2021-03-23	P	AN	GOOD
89172	c1	2021-07-14	F	AN	BAD
76289	c3	2021-05-23	P	FN	GOOD
23487	c2	2021-04-16	P	AN	BAD
91829	c5	2021-07-13	F	FN	BAD
28397	c9	2021-11-17	F	FN	GOOD
65784	c10	2021-12-12	P	AN	GOOD

10 rows in set (0.00 sec)

### SQL Queries:

1. Retrieve name and course no of all the students.

```
mysql> select student.st_name, Course_taken.course_no from student, Course_taken where student.prospectus_no=Course_taken.prospectus_no;
```

st_name	course_no
Sanskriti	c1
Saumya	c2
Parth	c3
Arnav	c4
Hardik	c1
Lakshay	c3
Rohan	c2
Harshita	c5
Manvi	c9
Shaurya	c10

10 rows in set (0.01 sec)

2. List the names of students who have paid the full amount at the time of admission.

```
mysql> select st_name from student where total_amt=amt_paid;
```

st_name
Manvi
Saumya

2 rows in set (0.00 sec)

3. Find the names of students starting with A.

```
mysql> select * from student where st_name like 'A%';
+-----+-----+-----+-----+-----+-----+-----+-----+
| prospectus_no | st_name | address | phone_no | D_O_B | total_amt | amt_paid | inst |
| allment |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 42345 | Arnav | Bangalore | 9278190187 | 1999-05-10 | 120000.00 | 12000.00 | F |
|
+-----+-----+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)
```

4. Print the names of students whose total amount is not equal to amount due.

```
mysql> select student.st_name from student where amt_paid not in(select amt_paid from student
where total_amt=amt_paid);
+-----+
| st_name |
+-----+
| Rohan |
| Parth |
| Sanskriti |
| Arnav |
| Samiksha |
| Shaurya |
| Lakshay |
| Hardik |
| Harshita |
+-----+
9 rows in set (0.00 sec)
```

5. Count the number of students who have joined in current year, current month.

```
mysql> select COUNT(*) from Course_taken where start_dt like '2023-05-__';
+-----+
| COUNT(*) |
+-----+
| 0 |
+-----+
1 row in set (0.00 sec)
```

6. Determine the maximum and minimum course fees.

```
mysql> select max(fees), min(fees) from course_fee;
+-----+-----+
| max(fees) | min(fees) |
+-----+-----+
| 695000 | 3000 |
+-----+-----+
1 row in set (0.00 sec)
```



7. Increase the fee of oracle by 50%.

```
mysql> update course_fee set fees=1.5*fees where course_no in(select course_no from Course where Course.course_name='DBMS'); select * from course_fee;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

course_no	full_part	fees
c1	F	15000
c10	F	3000
c2	P	40000
c3	F	6000
c4	P	12000
c5	P	10000
c6	F	23000
c7	F	98600
c8	F	87000
c9	P	695000

```
10 rows in set (0.00 sec)
```

8. Print the details of courses whose fees are between 5000 and 10000.

```
mysql> select Course.course_no, Course.course_name, course_fee.fees, course_fee.full_part from Course, course_fee where Course.course_no=course_fee.course_no and(course_fee.fees>5000 and course_fee.fees<10000);
```

course_no	course_name	fees	full_part
c3	JAVA	6000	F

```
1 row in set (0.00 sec)
```

9. Display the admission date in Date, Month, Year format.

```
mysql> select start_dt as start_date from Course_taken;
```

start_date
2021-09-29
2021-05-23
2021-08-19
2021-03-23
2021-07-14
2021-05-23
2021-04-16
2021-07-13
2021-11-17
2021-12-12

```
10 rows in set (0.00 sec)
```



10. Find out in which course maximum number of students have taken admission.

```
mysql> select Course.course_name from Course, Course_taken where Course.course_no=Course_taken
.course_no group by Course.course_name having count(Course_taken.prospectus_no)>=all (select
count(prospectus_no) from Course_taken group by course_no);
+-----+
| course_name |
+-----+
| DBMS        |
| ADA         |
| JAVA        |
+-----+
3 rows in set (0.00 sec)
```

11. Change the course\_name from C to C Programming.

```
mysql> update Course set course_name='CProgramming' WHERE course_name='C';
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from course;
+-----+-----+
| course_no | course_name |
+-----+-----+
| c1        | DBMS        |
| c10       | MATH        |
| c2        | ADA         |
| c3        | JAVA        |
| c4        | C++         |
| c5        | EN          |
| c6        | CProgramming |
| c7        | R           |
| c8        | BEE         |
| c9        | DECO        |
+-----+-----+
10 rows in set (0.00 sec)
```

12. Display the admission date in DD-MONTH-YYYY format.

```
mysql> select date_format(start_dt, '%d-%m-%y') from Course_taken;
+-----+
| date_format(start_dt, '%d-%m-%y') |
+-----+
| 29-09-21 |
| 23-05-21 |
| 19-08-21 |
| 23-03-21 |
| 14-07-21 |
| 23-05-21 |
| 16-04-21 |
| 13-07-21 |
| 17-11-21 |
| 12-12-21 |
+-----+
10 rows in set (0.00 sec)
```

13. Get the sum of amount to be collected from students in this month.

```
mysql> select sum(student.total_amt-student.amt_paid) from student,installment where student.prospectus_no=installment.prospectus_no and installment.due_dt like '__-APR-23';
```

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14. Find out in which course the maximum number of students have taken admission in the current month.

```
mysql> select Course.course_name from Course, Course_taken where Course.course_no=Course_taken.course_no and start_dt like '__-MAY-21' group by Course.course_name having count(Course_taken.prospectus_no)>=all(select count(prospectus_no) from Course_taken group by course_no);
```

15. Select the students who have not yet paid full amount of fees.

```
mysql> select st_name from student where total_amt>amt_paid;
```

st_name
Rohan
Parth
Sanskriti
Arnav
Samiksha
Shaurya
Lakshay
Hardik
Harshita

9 rows in set (0.00 sec)