Name: Umang Kumar

Roll Number: 7358

**Problem Statement A:**

**Unnamed PL/SQL code block: Use of Control structure and Exception handling is mandatory.**

Suggested Problem statement:

Consider Tables:

1. Borrower(Roll\_no, Name, DateofIssue, NameofBook, Status)

2. Fine(Roll\_no,Date,Amt)

Accept Roll\_no & NameofBook from user.

• Check the number of days (from date of issue),

• If days are between 15 to 30 then fine amount will be Rs 5per day.

• If no. of days>30, per day fine will be Rs 50 per day & for days less than 30, Rs. 5 per day.

• After submitting the book, status will change from I to R.

• If condition of fine is true, then details will be stored into fine table.

• Also handles the exception by named exception handler or user define exception handler.

mysql> show databases;

+--------------------+

| Database |

+--------------------+

| information\_schema |

| assign\_2 |

| assign\_2a |

| assign\_3 |

| db |

| demo |

| mydatabase |

| mysql |

| performance\_schema |

| sachin |

| sys |

| umang |

+--------------------+

12 rows in set (0.14 sec)

mysql> use umang;

Reading table information for completion of table and column names

You can turn off this feature to get a quicker startup with -A

Database changed

mysql> show tables;

+-----------------+

| Tables\_in\_umang |

+-----------------+

| Employee |

| Project |

| product |

| suppliers |

+-----------------+

4 rows in set (0.00 sec)

mysql> create table borrower(roll\_no int,name varchar(40), dateOfIssue date, book\_name varchar(35), status char);

Query OK, 0 rows affected (0.26 sec)

mysql> insert into Borrower values(1,'Rahul','2021-08-10','Java','I');

Query OK, 1 row affected (0.01 sec)

mysql> insert into Borrower values(2,'Vikas','2021-08-04','DBMS','I'),(3,'Irshad','2021-07- 23','CPP','I'),(4,'Ishan','2021-06-20','Networking','I');

Query OK, 3 rows affected (0.00 sec)

Records: 3 Duplicates: 0 Warnings: 0

mysql> select \* from Borrower;

+---------+--------+-------------+------------+--------+

| Roll\_no | Name | DateofIssue | NameofBook | Status |

+---------+--------+-------------+------------+--------+

| 1 | Rahul | 2021-08-10 | Java | I |

| 2 | Vikas | 2021-08-04 | DBMS | I |

| 3 | Irshad | 2021-07-23 | CPP | I |

| 4 | Ishan | 2021-06-20 | Networking | I |

+---------+--------+-------------+------------+--------+

4 rows in set (0.00 sec)

mysql> create table fine(roll\_no int, date date, amount int);

Query OK, 0 rows affected (0.37 sec)

mysql> delimiter //

mysql> create procedure B(roll\_new int, NameofBook varchar(30))

-> begin

-> declare x integer;

-> declare continue handler for not found

-> begin

-> select 'NOT FOUND';

-> end;

-> select datediff(curdate(),DateofIssue) into x from Borrower where Roll\_no=roll\_new;

-> if(x>15 && x<30)

-> then

-> insert into fine values(roll\_new,curdate(),(x\*5));

-> end if;

-> if (x>30)

-> then

-> insert into fine values(roll\_new,curdate(),(x\*50));

-> end if;

-> update Borrower set Status='R' where Roll\_no=roll\_new;

-> end;

-> //

Query OK, 0 rows affected, 1 warning (0.01 sec)

mysql> call B(4,'Ishan');

-> //

Query OK, 1 row affected (0.02 sec)

mysql> select \* from fine;

-> //

+---------+------------+--------+

| Roll\_no | fine\_date | amount |

+---------+------------+--------+

| 4 | 2021-08-24 | 3250 |

+---------+------------+--------+

1 row in set (0.00 sec)

mysql> select \* from Borrower;

-> //

+---------+--------+-------------+------------+--------+

| Roll\_no | Name | DateofIssue | NameofBook | Status |

+---------+--------+-------------+------------+--------+

| 1 | Rahul | 2021-08-10 | Java | I |

| 2 | Vikas | 2021-08-04 | DBMS | I |

| 3 | Irshad | 2021-07-23 | CPP | I |

| 4 | Ishan | 2021-06-20 | Networking | R |

+---------+--------+-------------+------------+--------+

4 rows in set (0.00 sec)

//--------------------------------------THANK YOU--------------------------------------------------//

**Problem Statement B:**

Write a PL/SQL code block to calculate the area of a circle for a value of radius varying from 5 to 9. Store the radius and the corresponding values of calculated area in an empty table named areas, consisting of two columns, radius and area.

mysql> show databases;

+--------------------+

| Database |

+--------------------+

| information\_schema |

| assign\_2 |

| assign\_2a |

| assign\_3 |

| db |

| demo |

| mydatabase |

| mysql |

| performance\_schema |

| sachin |

| sys |

| umang |

+--------------------+

12 rows in set (0.14 sec)

mysql> use umang;

Reading table information for completion of table and column names

You can turn off this feature to get a quicker startup with -A

Database changed

mysql> show tables;

+-----------------+

| Tables\_in\_assgn |

+-----------------+

| circle |

+-----------------+

1 row in set (0.00 sec)

mysql> desc circle;

+--------+---------------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+--------+---------------+------+-----+---------+-------+

| radius | int | YES | | NULL | |

| Area | decimal(10,3) | YES | | NULL | |

+--------+---------------+------+-----+---------+-------+

2 rows in set (0.00 sec)

mysql> delimiter //

mysql> create procedure area\_circle()

-> begin

-> declare i int;

-> declare ans decimal(10,2);

->

-> set i =5;

->

-> while i<=9 do

-> set ans = 3.14\*i\*i;

-> insert into circle values(i,ans);

-> set i =i+1;

-> end while;

-> end;

-> //

Query OK, 0 rows affected (0.01 sec)

mysql> call area\_circle() //

Query OK, 1 row affected (0.02 sec)

mysql> select \* from circle;

-> //

+--------+---------+

| radius | Area |

+--------+---------+

| 5 | 78.500 |

| 6 | 113.040 |

| 7 | 153.860 |

| 8 | 200.960 |

| 9 | 254.340 |

+--------+---------+

5 rows in set (0.00 sec