**ASSIGNMENT 4**

**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> create database library;

Query OK, 1 row affected (0.01 sec)

mysql> use library;

Database changed

mysql> create table borrower(rollno int primary key,name varchar(20),dateofissue date,nameofbook

-> varchar(20),status varchar(20));

Query OK, 0 rows affected (0.35 sec)

mysql> create table fine(rollno int,foreign key(rollno) references borrower(rollno),returndate date,

-> amount int);

Query OK, 0 rows affected (0.38 sec)

mysql> insert into borrower values(1,'abc','2021-06-01','SEPM','I');

Query OK, 1 row affected (0.06 sec)

mysql> insert into borrower values(2,'xyz','2021-05-01','OOP','I');

Query OK, 1 row affected (0.06 sec)

mysql> insert into borrower values(3,'pqr','2021-06-15','DBMS','I');

Query OK, 1 row affected (0.12 sec)

mysql> insert into borrower values(4,'def','2021-06-30','DSA','I');

Query OK, 1 row affected (0.10 sec)

mysql> insert into borrower values(5,'lmn','2021-07-05','ADS','I');

Query OK, 1 row affected (0.05 sec)

mysql> select \* from borrower;

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

| rollno | name | dateofissue | nameofbook | status |

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

| 1 | abc | 2021-06-01 | SEPM | I |

| 2 | xyz | 2021-05-01 | OOP | I |

| 3 | pqr | 2021-06-15 | DBMS | I |

| 4 | def | 2021-06-30 | DSA | I |

| 5 | lmn | 2021-07-05 | ADS | I |

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

5 rows in set (0.00 sec)

mysql> delimiter $

mysql> create procedure calc\_fine\_lib(in roll int)

-> begin

-> declare fine1 int;

-> declare noofdays int;

-> declare issuedate date;

-> declare exit handler for SQLEXCEPTION select 'create table definition';

-> select dateofissue into issuedate from borrower where rollno=roll;

-> select datediff(curdate(),issuedate) into noofdays;

-> if noofdays>15 and noofdays<=30 then

-> set fine1=noofdays\*5;

-> insert into fine values(roll,curdate(),fine1);

-> elseif noofdays>30 then

-> set fine1=((noofdays-30)\*50) + 30\*5;

-> insert into fine values(roll,curdate(),fine1);

-> else

->

-> insert into fine values(roll,curdate(),0);

-> end if;

-> update borrower set status='R' where rollno=roll;

-> end $

Query OK, 0 rows affected (0.04 sec)

mysql> delimiter ;

mysql> call calc\_fine\_lib(1);

Query OK, 1 row affected (0.11 sec)

mysql> call calc\_fine\_lib(2);

Query OK, 1 row affected (0.20 sec)

mysql> call calc\_fine\_lib(3);

Query OK, 1 row affected (0.10 sec)

mysql> call calc\_fine\_lib(4);

Query OK, 1 row affected (0.10 sec)

mysql> call calc\_fine\_lib(5);

Query OK, 1 row affected (0.10 sec)

mysql> select \* from fine;

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

| rollno | returndate | amount |

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

| 1 | 2022-08-26 | 21200 |

| 2 | 2022-08-26 | 22750 |

| 3 | 2022-08-26 | 20500 |

| 4 | 2022-08-26 | 19750 |

| 5 | 2022-08-26 | 19500 |

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

5 rows in set (0.00 sec)

**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> delimiter /

mysql> create table areas (radious int, area decimal (5,2))/

Query OK, 0 rows affected (0.33 sec)

mysql> create procedure mult (in var1 int , out var2 decimal(5,2))

-> begin

-> set var2 = 3.14\*var1\*var1;

-> insert into areas values (var1,var2);

-> end

-> /

Query OK, 0 rows affected (0.08 sec)

mysql> delimiter ;

mysql> call mult (5,@a1);

Query OK, 1 row affected (0.07 sec)

mysql> call mult (6,@a2);

Query OK, 1 row affected (0.05 sec)

mysql> call mult (7,@a3);

Query OK, 1 row affected (0.05 sec)

mysql> call mult (8,@a4);

Query OK, 1 row affected (0.06 sec)

mysql> call mult (9,@a5);

Query OK, 1 row affected (0.05 sec)

mysql> select \* from areas;

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

| radious | area |

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

| 5 | 78.50 |

| 6 | 113.04 |

| 7 | 153.86 |

| 8 | 200.96 |

| 9 | 254.34 |

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

5 rows in set (0.00 sec)