

## ASSIGNMENT-2

- **Objective:-** Use of control structure using PL/SQL code block.
- **Problem Statement:-** Write a PL/SQL block of code for the following requirements:-

### **Schema:**

1. Borrower(Rollin, Name, DateofIssue, NameofBook, Status)

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

- Accept roll\_no & name of book from user.
  - Check the number of days (from date of issue), if days are between 15 to 30 then fine amount will be Rs 5 per 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
- **Author:-** Dewanshi Lokesh Gupta
  - **Roll no:-** 60
  - **PRN:-** UCS1F1060

### **1.Created database and it's tables:-**

```
mysql> use library;
Database changed
mysql> show tables;
+-----+
| Tables_in_library |
+-----+
| borrower          |
| fine              |
+-----+
2 rows in set (0.00 sec)

mysql> desc borrower;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| Rno        | int           | YES  |     | NULL    |       |
| BName      | varchar(50)   | YES  |     | NULL    |       |
| DateofIssue | date          | YES  |     | NULL    |       |
| DateofReturn | date          | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql> desc fine;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| Rno    | int           | YES  |     | NULL    |       |
| BName  | varchar(50)   | YES  |     | NULL    |       |
| amt    | int           | YES  |     | NULL    |       |
| status | varchar(25)   | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

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### 2.Created a trigger on table fine:-

```
DELIMITER $$
create trigger Ins_student
Before insert
on borrower
for each row
begin
insert into fine(Rno,Bname,status) values(new.Rno,new.Bname,'I');
end $$
DELIMITER ;
```

### 3.Insert values into borrower:-

```
mysql> select * from borrower;
+-----+-----+-----+-----+
| Rno | BName | DateofIssue | DateofReturn |
+-----+-----+-----+-----+
| 101 | ABC   | 2022-04-10  | NULL         |
+-----+-----+-----+-----+
1 row in set (0.00 sec)

mysql> insert into borrower(Rno,Bname,DateofIssue) values(102,'XYZ','2022-04-20');
Query OK, 1 row affected (0.13 sec)

mysql> insert into borrower(Rno,Bname,DateofIssue) values(103,'RAJ','2022-05-05');
Query OK, 1 row affected (0.13 sec)

mysql> insert into borrower(Rno,Bname,DateofIssue) values(104,'RAM','2022-05-15');
Query OK, 1 row affected (0.03 sec)

mysql> insert into borrower(Rno,Bname,DateofIssue) values(105,'DEW','2022-05-31');
Query OK, 1 row affected (0.11 sec)

mysql> select * from borrower;
+-----+-----+-----+-----+
| Rno | BName | DateofIssue | DateofReturn |
+-----+-----+-----+-----+
| 101 | ABC   | 2022-04-10  | NULL         |
| 102 | XYZ   | 2022-04-20  | NULL         |
| 103 | RAJ   | 2022-05-05  | NULL         |
| 104 | RAM   | 2022-05-15  | NULL         |
| 105 | DEW   | 2022-05-31  | NULL         |
+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> select * from fine;
+-----+-----+-----+-----+
| Rno | BName | amt | status |
+-----+-----+-----+-----+
| 101 | ABC   | NULL | I       |
| 102 | XYZ   | NULL | I       |
| 103 | RAJ   | NULL | I       |
| 104 | RAM   | NULL | I       |
| 105 | DEW   | NULL | I       |
+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

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### 4.Create a procedure to calculate the fine:-

Delimiter \$\$

Create procedure book\_fine(IN r int,IN b varchar(50),IN d Date)

Begin

Declare s int;

Declare x date;

Update borrower set DateofReturn=d where Rno=r;

Select DateofIssue into x from borrower where Rno=r;

Set s=DATEDIFF(d,x);

if(s>=15 OR s<=30) then

update fine set amt=5\*s where Rno=r and Bname=b;

elseif(s>30) then

update fine set amt=50\*s where Rno=r and Bname=b;

else

update fine set amt=100\*s where Rno=r and Bname=b;

End if ;

update fine set status= 'R' where Rno=r and Bname=b;

End \$\$

Delimiter ;

```
mysql> Delimiter ;
mysql> call book_fine(102,'XYZ','2022-04-30');
Query OK, 1 row affected (0.15 sec)

mysql> call book_fine(103,'RAJ','2022-05-30');
Query OK, 1 row affected (0.15 sec)

mysql> call book_fine(104,'RAM','2022-05-28');
Query OK, 1 row affected (0.07 sec)

mysql> call book_fine(105,'DEW','2022-06-30');
Query OK, 1 row affected (0.54 sec)

mysql> SELECT *from borrower;
+-----+-----+-----+-----+
| Rno | BName | DateofIssue | DateofReturn |
+-----+-----+-----+-----+
| 101 | ABC   | 2022-04-10  | 2022-04-15   |
| 102 | XYZ   | 2022-04-20  | 2022-04-30   |
| 103 | RAJ   | 2022-05-05  | 2022-05-30   |
| 104 | RAM   | 2022-05-15  | 2022-05-28   |
| 105 | DEW   | 2022-05-31  | 2022-06-30   |
+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> SELECT *from fine;
+-----+-----+-----+-----+
| Rno | BName | amt | status |
+-----+-----+-----+-----+
| 101 | ABC   | 25  | R       |
| 102 | XYZ   | 50  | R       |
| 103 | RAJ   | 125 | R       |
| 104 | RAM   | 65  | R       |
| 105 | DEW   | 150 | R       |
+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql>
```