Name : Om G. Panchwate
Roll no. 31455

Assignment no. 4

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create table Borrower(Roll_no int primary key,Date_of_Issue date not
null,Name_of_Book varchar(200) not null,Status varchar(2) not null);
Query OK, 0 rows affected (0.04 sec)

create table Fine(Roll_no int primary key,Date_of_Fine date not null ,Amount int
not null,foreign key (Roll_no) references Borrower(Roll_no));
Query OK, 0 rows affected (0.09 sec)

mysql> describe Fine;
+--------------+---------+------+-----+---------+-------+
| Field        | Type    | Null | Key | Default | Extra |
+--------------+---------+------+-----+---------+-------+
| Roll_no      | int(11) | NO   | PRI | NULL    |       |
| Date_of_Fine | date    | NO   |     | NULL    |       |
| Amount       | int(11) | NO   |     | NULL    |       |
+--------------+---------+------+-----+---------+-------+

describe Borrower;
+---------------+--------------+------+-----+---------+-------+
| Field         | Type         | Null | Key | Default | Extra |
+---------------+--------------+------+-----+---------+-------+
| Roll_no       | int(11)      | NO   | PRI | NULL    |       |
| Date_of_Issue | date         | NO   |     | NULL    |       |
| Name_of_Book  | varchar(200) | NO   |     | NULL    |       |
| Status        | varchar(2)   | NO   |     | NULL    |       |
+---------------+--------------+------+-----+---------+-------+

delimiter//
create procedure calculatefine(roll int,bookname varchar(200))
    -> begin declare amount int;
    -> declare dateissued date;
    -> declare no_days int;
    -> declare futureissuedate condition for sqlstate '45000';
    -> declare continue handler for not found
    -> set amount = 0;
    -> set no_days = null;
    -> select Date_of_Issue into  dateissued from Borrower where Roll_No = roll and
Name_of_Book = bookname;
    -> set no_days = datediff(curdate(),dateissued);
    ->  if no_days is null or no_days < 0 then
    -> if no_days is null then
    -> select 'selected roll number has not borrowed any book/ invalid rollno or
book name';
    ->  else
    ->  select 'a book cannot be returned which has a future issue date.';
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    -> end if;
    -> else
    -> if no_days >= 15 and no_days <= 30 then
    -> set amount = no_days * 5;
    -> elseif no_days > 30 then
    -> set amount = no_days * 50;
    -> end if;
    -> update Borrower set Status = 'r' where Roll_no = roll and Name_of_Book  =
bookname;
    -> into Fine values (roll, curdate(), amount);
    -> commit;
    -> end if;
    -> end;
    -> //
Query OK, 0 rows affected (0.00 sec)

mysql> delimiter ;

mysql> insert into Borrower values(1,"Ayush",2023/01/15',"Dbms","I");

mysql> insert into Borrower values(2,"Naresh",'2023/7/3',"CNS","I");

mysql> insert into Borrower values(2,"Durvesh",'2023/8/10',"CNS","I");

mysql> insert into Borrower values(4,"Mandar",'2023/08/31',"ABCD","I");

mysql> insert into Borrower values(5,"OM",'2023/08/1',"QWERTY","I");

mysql> select * from Borrower;
+---------+---------+---------------+--------------+--------+
| Roll_no | Name    | Date_of_Issue | Name_of_Book | Status |
+---------+---------+---------------+--------------+--------+
|       1 | Ayush   | 2023-01-15    | Dbms         | I      |
|       2 | Naresh  | 2023-07-03    | CNS          | I      |
|       3 | Durvesh | 2023-08-10    | IOT          | I      |
|       4 | Mandar  | 2023-08-31    | ABCD         | I      |
|       5 | OM      | 2023-08-01    | QWERTY       | I      |
+---------+---------+---------------+--------------+--------+
5 rows in set (0.00 sec)

mysql> select * from Fine;
Empty set (0.00 sec)

call calculatefine(9,"fdf");
+-------------------------------------------------------------------------------+
| selected roll number has not borrowed any book/ invalid rollno or book name |
+-------------------------------------------------------------------------------+
| selected roll number has not borrowed any book/ invalid rollno or book name |
+-------------------------------------------------------------------------------+
1 row in set (0.00 sec)

mysql> call calculatefine(1,"DBMS");
Query OK, 0 rows affected (0.03 sec)
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```
mysql> call calculatefine(2,"CNS");
Query OK, 0 rows affected (0.03 sec)

mysql> call calculatefine(3,"IOT");
Query OK, 0 rows affected (0.02 sec)

mysql> call calculatefine(4,"ABCD");
+-----------------------------------------------------------+
| a book cannot be returned which has a future issue date. |
+-----------------------------------------------------------+
| a book cannot be returned which has a future issue date. |
+-----------------------------------------------------------+
1 row in set (0.00 sec)
Query OK, 0 rows affected (0.00 sec)

mysql> call calculatefine(5,"QWERTY");
Query OK, 0 rows affected (0.02 sec)

mysql> select * from Fine;
+---------+--------------+--------+
| Roll_no | Date_of_Fine | Amount |
+---------+--------------+--------+
|       1 | 2023-08-21   |  10900 |
|       2 | 2023-08-21   |   2450 |
|       3 | 2023-08-21   |   NULL |
|       5 | 2023-08-21   |    100 |
+---------+--------------+--------+
4 rows in set (0.00 sec)

mysql> select * from Borrower;
+---------+---------+---------------+--------------+--------+
| Roll_no | Name    | Date_of_Issue | Name_of_Book | Status |
+---------+---------+---------------+--------------+--------+
|       1 | Ayush   | 2023-01-15    | Dbms         | r      |
|       2 | Naresh  | 2023-07-03    | CNS          | r      |
|       3 | Durvesh | 2023-08-10    | IOT          | r      |
|       4 | Mandar  | 2023-08-31    | ABCD         | I      |
|       5 | OM      | 2023-08-01    | QWERTY       | r      |
+---------+---------+---------------+--------------+--------+
5 rows in set (0.00 sec)
```