

## DBMSL

### Assignment 5: PL/SQL Stored Procedure and Stored Function

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#### PROBLEM STATEMENT:

Write a Stored Procedure namely proc\_Grade for the categorization of students.  
If marks scored by students in examination is  $\leq 1500$  and  $\geq 990$  then students will be placed in the distinction category.

If marks scored are  $\leq 989$  and  $\geq 900$  category is first class.

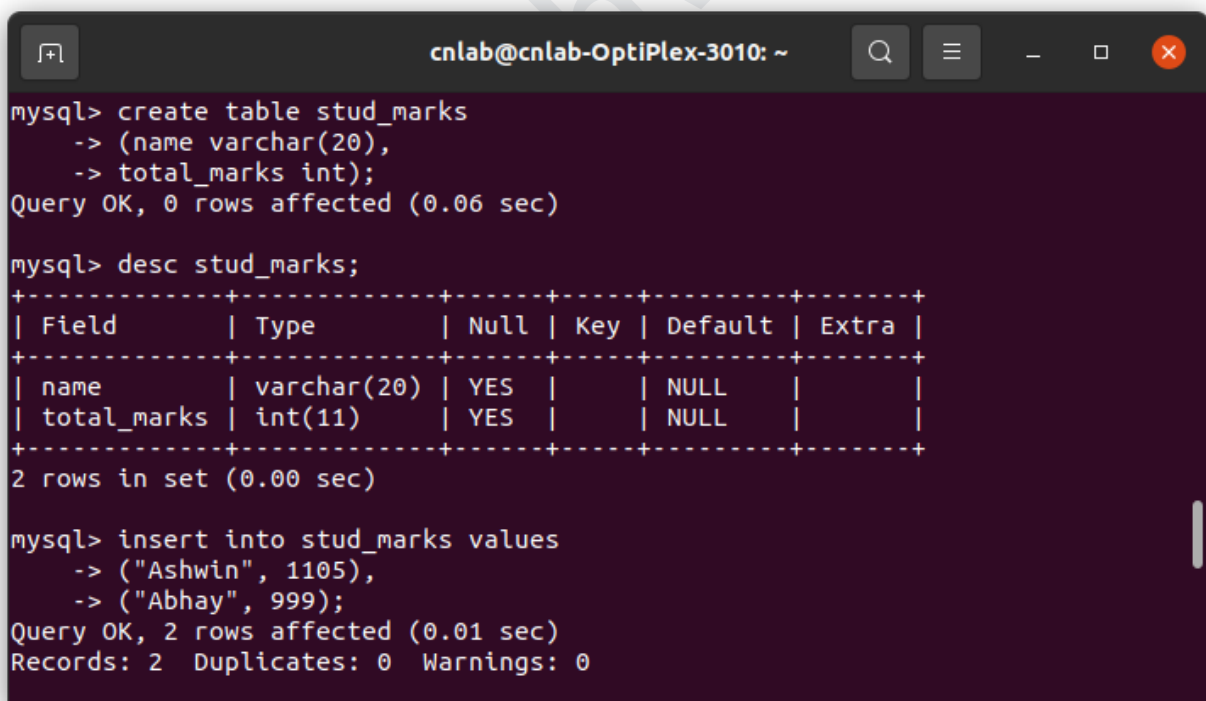
If marks  $\leq 899$  and  $\geq 825$  category is Higher Second Class.

Write a PL/SQL block for using procedures created with the above requirement.

Stud\_Marks(name, total\_marks)

Result(Roll, Name, Class).

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```
cnlab@cnlab-OptiPlex-3010: ~  
mysql> create table stud_marks  
-> (name varchar(20),  
-> total_marks int);  
Query OK, 0 rows affected (0.06 sec)  
  
mysql> desc stud_marks;  
+-----+-----+-----+-----+-----+-----+  
| Field      | Type        | Null | Key | Default | Extra |  
+-----+-----+-----+-----+-----+-----+  
| name       | varchar(20) | YES  |     | NULL    |      |  
| total_marks | int(11)     | YES  |     | NULL    |      |  
+-----+-----+-----+-----+-----+-----+  
2 rows in set (0.00 sec)  
  
mysql> insert into stud_marks values  
-> ("Ashwin", 1105),  
-> ("Abhay", 999);  
Query OK, 2 rows affected (0.01 sec)  
Records: 2  Duplicates: 0  Warnings: 0
```

```
cnlab@cnlab-OptiPlex-3010: ~  
mysql> insert into stud_marks values  
-> ("Mahesh", 903),  
-> ("Chirag", 813),  
-> ("Yashweer", 781),  
-> ("Tanay", 927),  
-> ("Disha", 678),  
-> ("Anirudhha", 989),  
-> ("Parth", 860),  
-> ("Aman", 870);  
Query OK, 8 rows affected (0.00 sec)  
Records: 8  Duplicates: 0  Warnings: 0  
  
mysql> select * from stud_marks;  
+-----+-----+  
| name      | total_marks |  
+-----+-----+  
| Ashwin    | 1105        |  
| Abhay     | 999         |  
| Mahesh    | 903         |  
| Chirag    | 813         |  
| Yashweer  | 781         |  
| Tanay     | 927         |  
| Disha     | 678         |  
| Anirudhha | 989         |  
| Parth     | 860         |  
| Aman      | 870         |  
+-----+-----+  
10 rows in set (0.00 sec)
```

31485 AS

```
cnlab@cnlab-OptiPlex-3010: ~  
mysql> alter table stud_marks modify name varchar(20) primary key;  
Query OK, 10 rows affected (0.21 sec)  
Records: 10 Duplicates: 0 Warnings: 0  
  
mysql> desc stud_marks;  
+-----+-----+-----+-----+-----+-----+  
| Field      | Type      | Null | Key | Default | Extra |  
+-----+-----+-----+-----+-----+-----+  
| name       | varchar(20) | NO   | PRI | NULL    |      |  
| total_marks | int(11)    | YES  |     | NULL    |      |  
+-----+-----+-----+-----+-----+-----+  
2 rows in set (0.01 sec)  
  
mysql> create table result (roll_no int, name varchar(20), class varchar(20),  
foreign key(name) references stud_marks(name) on delete cascade);  
Query OK, 0 rows affected (0.05 sec)  
  
mysql> desc result;  
+-----+-----+-----+-----+-----+-----+  
| Field      | Type      | Null | Key | Default | Extra |  
+-----+-----+-----+-----+-----+-----+  
| roll_no    | int(11)    | YES  |     | NULL    |      |  
| name       | varchar(20) | YES  | MUL | NULL    |      |  
| class      | varchar(20) | YES  |     | NULL    |      |  
+-----+-----+-----+-----+-----+-----+  
3 rows in set (0.00 sec)  
  
mysql> 
```

31485 AS

```
cnlab@cnlab-OptiPlex-3010: ~  
mysql> delimiter //  
mysql> drop procedure if exists proc_class //  
Query OK, 0 rows affected, 1 warning (0.00 sec)  
  
mysql> create procedure proc_class(IN rollno int, IN marks int)  
-> begin  
->   declare class varchar(20);  
->   declare curr_name varchar(20);  
->  
->   if (marks >= 990 and marks <= 1500) then  
->     set class = "Distinction";  
->   elseif (marks >= 900 and marks <= 989) then  
->     set class = "First Class";  
->   elseif (marks >= 825 and marks <= 899) then  
->     set class = "Second Class";  
->   else  
->     set class = "Fail";  
->   end if;  
->  
->   select name into curr_name from stud_marks where roll_no = rollno;  
->   insert into result values(rollno, curr_name, class);  
->  
-> end //  
Query OK, 0 rows affected (0.00 sec)  
  
mysql> delimiter ;  
mysql>
```

```
cnlab@cnlab-OptiPlex-3010: ~  
mysql> alter table stud_marks add roll_no int unique;  
Query OK, 10 rows affected (0.10 sec)  
Records: 10  Duplicates: 0  Warnings: 0  
  
mysql> select * from stud_marks;  
+-----+-----+-----+  
| name      | total_marks | roll_no |  
+-----+-----+-----+  
| Abhay     | 999         | NULL    |  
| Aman      | 870         | NULL    |  
| Anirudhha | 989         | NULL    |  
| Ashwin    | 1105        | NULL    |  
| Chirag    | 813         | NULL    |  
| Disha     | 678         | NULL    |  
| Mahesh    | 903         | NULL    |  
| Parth     | 860         | NULL    |  
| Tanay     | 927         | NULL    |  
| Yashweer  | 781         | NULL    |  
+-----+-----+-----+  
10 rows in set (0.00 sec)
```

```
cnlab@cnlab-OptiPlex-3010: ~  
mysql> update stud_marks set roll_no = 1 where name="Ashwin";  
Query OK, 1 row affected (0.02 sec)  
Rows matched: 1  Changed: 1  Warnings: 0  
  
mysql> update stud_marks set roll_no = 2 where name="Aman";  
Query OK, 1 row affected (0.01 sec)  
Rows matched: 1  Changed: 1  Warnings: 0  
  
mysql> update stud_marks set roll_no = 3 where name="Abhay";  
Query OK, 1 row affected (0.02 sec)  
Rows matched: 1  Changed: 1  Warnings: 0  
  
mysql> update stud_marks set roll_no = 4 where name="Aniruddha";  
Query OK, 0 rows affected (0.00 sec)  
Rows matched: 0  Changed: 0  Warnings: 0  
  
mysql> update stud_marks set roll_no = 5 where name="Chirag";  
Query OK, 1 row affected (0.02 sec)  
Rows matched: 1  Changed: 1  Warnings: 0  
  
mysql> update stud_marks set roll_no = 6 where name="Disha";  
Query OK, 1 row affected (0.02 sec)  
Rows matched: 1  Changed: 1  Warnings: 0  
  
mysql> update stud_marks set roll_no = 7 where name="Mahesh";  
Query OK, 1 row affected (0.01 sec)  
Rows matched: 1  Changed: 1  Warnings: 0  
  
mysql> update stud_marks set roll_no = 8 where name="Parth";  
Query OK, 1 row affected (0.02 sec)  
Rows matched: 1  Changed: 1  Warnings: 0  
  
mysql> update stud_marks set roll_no = 9 where name="Tanay";  
Query OK, 1 row affected (0.02 sec)  
Rows matched: 1  Changed: 1  Warnings: 0
```

```
cnlab@cnlab-OptiPlex-3010: ~  
mysql> update stud_marks set roll_no = 10 where name="Yashweer";  
Query OK, 1 row affected (0.02 sec)  
Rows matched: 1  Changed: 1  Warnings: 0  
  
mysql>
```

```
cnlab@cnlab-OptiPlex-3010: ~  
mysql> select * from stud_marks;  
+-----+-----+-----+  
| name      | total_marks | roll_no |  
+-----+-----+-----+  
| Abhay     | 999         | 3       |  
| Aman      | 870         | 2       |  
| Anirudhha | 989         | 4       |  
| Ashwin    | 1105        | 1       |  
| Chirag    | 813         | 5       |  
| Disha     | 678         | 6       |  
| Mahesh    | 903         | 7       |  
| Parth     | 860         | 8       |  
| Tanay     | 927         | 9       |  
| Yashweer  | 781         | 10      |  
+-----+-----+-----+  
10 rows in set (0.01 sec)  
  
mysql>
```

31485 Ashwin

```
cnlab@cnlab-OptiPlex-3010: ~  
mysql> delimiter %  
mysql> drop function if exists getClass %  
Query OK, 0 rows affected, 1 warning (0.00 sec)  
  
mysql> create function getGrades() returns int  
-> begin  
->   declare a int;  
->   declare b int;  
->   declare done int default 0;  
->  
->   declare mycursor CURSOR FOR  
->   SELECT roll_no, total_marks FROM stud_marks;  
->  
->   declare continue handler for not found set done = 1;  
->  
->   open mycursor;  
->  
->   cursor_loop: LOOP  
->     fetch mycursor into a, b;  
->  
->     if done = 1 then leave cursor_loop;  
->     end if;  
->  
->     call proc_class(a, b);  
->  
->   end loop cursor_loop;  
->  
->   close mycursor;  
->  
->   return 1;  
->  
-> end %  
Query OK, 0 rows affected (0.01 sec)  
  
mysql> delimiter ;  
mysql>
```

```
mysql> select getGrades();
+-----+
| getGrades() |
+-----+
|          1 |
+-----+
1 row in set, 1 warning (0.02 sec)

mysql> select * from result;
+-----+-----+-----+
| roll_no | name      | class      |
+-----+-----+-----+
|        3 | Abhay     | Distinction |
|        2 | Aman      | Second Class |
|        4 | Anirudhha | First Class |
|        1 | Ashwin    | Distinction |
|        5 | Chirag    | Fail       |
|        6 | Disha     | Fail       |
|        7 | Mahesh    | First Class |
|        8 | Parth     | Second Class |
|        9 | Tanay     | First Class |
|       10 | Yashweer  | Fail       |
+-----+-----+-----+
10 rows in set (0.00 sec)

mysql> 
```

31485 Ashwin Taras