

1. Tables Creation:-

```
mysql> CREATE TABLE Stud_Marks (Roll INT PRIMARY KEY, Name VARCHAR(50),  
Total_Marks INT NOT NULL);  
Query OK, 0 rows affected (0.15 sec)
```

```
mysql> DESC Stud_Marks;
```

Field	Type	Null	Key	Default	Extra
Roll	int(11)	NO	PRI	NULL	
Name	varchar(50)	NO		NULL	
Total_Marks	int(11)	NO		NULL	

3 rows in set (0.00 sec)

```
mysql> CREATE TABLE Result(Roll INT PRIMARY KEY NOT NULL, Name VARCHAR(20),  
Class VARCHAR(20));  
Query OK, 0 rows affected (0.18 sec)
```

```
mysql> DESC Result;
```

Field	Type	Null	Key	Default	Extra
Roll	int(11)	NO	PRI	NULL	
Name	varchar(20)	YES		NULL	
Class	varchar(20)	YES		NULL	

3 rows in set (0.00 sec)

```
mysql>
```

=====

2. Data Insertion:-

```
mysql> INSERT INTO Stud_Marks (Name, Total_Marks) VALUES ('John Doe', 950);  
Query OK, 1 row affected (0.04 sec)
```

```
mysql> INSERT INTO Stud_Marks (Name, Total_Marks) VALUES ('Jane Smith', 1010);  
Query OK, 1 row affected (0.02 sec)
```

```
mysql> INSERT INTO Stud_Marks (Name, Total_Marks) VALUES ('Alice Brown', 870);  
Query OK, 1 row affected (0.08 sec)
```

```
mysql> INSERT INTO Stud_Marks (Name, Total_Marks) VALUES ('Bob Johnson', 990);  
Query OK, 1 row affected (0.02 sec)
```

```
mysql> INSERT INTO Stud_Marks (Name, Total_Marks) VALUES ('Carol White', 820);  
Query OK, 1 row affected (0.03 sec)
```

```
mysql> SELECT * FROM Stud_Marks;
```

Roll	Name	Total_Marks
101	John Doe	950
102	Jane Smith	1010
103	Alice Brown	870
104	Bob Johnson	990
105	Carol White	820

5 rows in set (0.00 sec)

mysql>

```
=====
=====
```

3. Using stored procedure:-

****Program:-**

DELIMITER \$\$

```
CREATE OR REPLACE PROCEDURE proc_grade(
    IN p_roll INT
)
```

BEGIN

```
    DECLARE v_name VARCHAR(50);
```

```
    DECLARE v_marks INT;
```

```
    DECLARE v_class VARCHAR(20);
```

```
    SELECT Name, Total_Marks INTO v_name, v_marks
```

```
    FROM Stud_Marks
```

```
    WHERE Roll = p_roll;
```

```
    SET v_class = CASE
```

```
        WHEN v_marks BETWEEN 990 AND 1500 THEN 'Distinction'
```

```
        WHEN v_marks BETWEEN 900 AND 989 THEN 'First Class'
```

```
        WHEN v_marks BETWEEN 825 AND 899 THEN 'Higher Second Class'
```

```
        ELSE 'No Category'
```

```
    END;
```

```
    INSERT INTO Result VALUES(p_roll, v_name, v_class);
```

```
    SELECT 'Record inserted successfully!!' AS message;
```

END\$\$

DELIMITER ;

****Function Call:-**

mysql> CALL proc_grade(101);

```
+-----+
| message                                |
+-----+
| Record inserted successfully!! |
+-----+
1 row in set (0.02 sec)
```

Query OK, 2 rows affected (0.02 sec)

mysql> CALL proc_grade(102);

```
+-----+
| message                                |
+-----+
| Record inserted successfully!! |
+-----+
1 row in set (0.14 sec)
```

Query OK, 2 rows affected (0.14 sec)

mysql> CALL proc_grade(103);

```
+-----+
| message                                |
+-----+
| Record inserted successfully!! |
+-----+
1 row in set (0.08 sec)
```

Query OK, 2 rows affected (0.08 sec)

```
mysql> CALL proc_grade(104);
```

```
+-----+
| message                               |
+-----+
| Record inserted successfully!! |
+-----+
1 row in set (0.02 sec)
```

Query OK, 2 rows affected (0.02 sec)

```
mysql> CALL proc_grade(105);
```

```
+-----+
| message                               |
+-----+
| Record inserted successfully!! |
+-----+
1 row in set (0.04 sec)
```

Query OK, 2 rows affected (0.04 sec)

```
mysql>
```

****Result Table:-**

```
mysql> SELECT * FROM Result;
```

```
+-----+-----+-----+
| Roll | Name       | Class                |
+-----+-----+-----+
| 101  | John Doe   | First Class          |
| 102  | Jane Smith | Distinction          |
| 103  | Alice Brown | Higher Second Class  |
| 104  | Bob Johnson | Distinction          |
| 105  | Carol White | No Category          |
+-----+-----+-----+
5 rows in set (0.00 sec)
```

```
mysql>
```

4. Using stored function:-

****Program:-**

```
DELIMITER $$
```

```
CREATE FUNCTION func_grade(p_roll INT) RETURNS VARCHAR(20)
```

```
BEGIN
```

```
    DECLARE v_marks INT;
```

```
    DECLARE v_class VARCHAR(20);
```

```
    SELECT Total_Marks INTO v_marks
```

```
    FROM Stud_Marks
```

```
    WHERE Roll = p_roll;
```

```
    SET v_class = CASE
```

```
        WHEN v_marks BETWEEN 990 AND 1500 THEN 'Distinction'
```

```
        WHEN v_marks BETWEEN 900 AND 989 THEN 'First Class'
```

```
        WHEN v_marks BETWEEN 825 AND 899 THEN 'Higher Second Class'
```

```
        ELSE 'No Category'
```

```
    END;
```

```

        RETURN v_class;
END
$$
DELIMITER ;

```

```

mysql> INSERT INTO Result (Roll, Name, Class) SELECT Roll, Name,
func_grade(Roll) From Stud_Marks WHERE Roll=101;
Query OK, 1 row affected (0.04 sec)
Records: 1  Duplicates: 0  Warnings: 0

```

```

mysql> INSERT INTO Result (Roll, Name, Class) SELECT Roll, Name,
func_grade(Roll) From Stud_Marks WHERE Roll=102;
Query OK, 1 row affected (0.03 sec)
Records: 1  Duplicates: 0  Warnings: 0

```

```

mysql> INSERT INTO Result (Roll, Name, Class) SELECT Roll, Name,
func_grade(Roll) From Stud_Marks WHERE Roll=103;
Query OK, 1 row affected (0.03 sec)
Records: 1  Duplicates: 0  Warnings: 0

```

```

mysql> INSERT INTO Result (Roll, Name, Class) SELECT Roll, Name,
func_grade(Roll) From Stud_Marks WHERE Roll=104;
Query OK, 1 row affected (0.30 sec)
Records: 1  Duplicates: 0  Warnings: 0

```

```

mysql> INSERT INTO Result (Roll, Name, Class) SELECT Roll, Name,
func_grade(Roll) From Stud_Marks WHERE Roll=105;
Query OK, 1 row affected (0.04 sec)
Records: 1  Duplicates: 0  Warnings: 0

```

```

mysql> SELECT * FROM Result;
+-----+-----+-----+
| Roll | Name          | Class                |
+-----+-----+-----+
| 101  | John Doe      | First Class          |
| 102  | Jane Smith    | Distinction          |
| 103  | Alice Brown   | Higher Second Class  |
| 104  | Bob Johnson   | Distinction          |
| 105  | Carol White   | No Category          |
+-----+-----+-----+
5 rows in set (0.00 sec)

```

```
mysql>
```