

## 2. Write a stored procedure to calculate the total marks of each student

```
mysql> select * from student_marks;
```

Roll_NO	Name	Science	English	Maths	Economics
1	divya	52	45	62	36
2	suraj	23	62	52	41
3	gayu	52	63	85	62
4	veena	52	62	39	41

4 rows in set (0.04 sec)

```
mysql> SELECT *, SUM(Science + English + Maths + Economics)as Total  
-> from student_marks  
-> Group by Roll_NO;
```

Roll_NO	Name	Science	English	Maths	Economics	Total
1	divya	52	45	62	36	195
2	suraj	23	62	52	41	178
3	gayu	52	63	85	62	262
4	veena	52	62	39	41	194

4 rows in set (0.17 sec)

### STORED PROCEDURE

```
mysql> CREATE PROCEDURE TotalMarks(IN ROLL INT )  
-> SELECT *,SUM(Science+English+Maths+Economics) as Total  
-> from student_marks  
-> where Roll_NO = ROLL;
```

```
mysql>CALL TotalMarks(1);
```

Roll_NO	Name	Science	English	Maths	Economics	Total
1	divya	52	45	62	36	195

1 row in set (0.03 sec)

```
mysql>CALL TotalMarks(2);
```

Roll_NO	Name	Science	English	Maths	Economics	Total
2	suraj	23	62	52	41	178

1 row in set (0.17 sec)

3. Write a query which displays the list of students in ascending order based on their name along with the highest to lowest marks scored in different subjects by each student.

```
mysql> select *, SUM(Science + English + Maths + Economics) as Total
-> FROM student_marks
-> GROUP BY Roll_NO
-> ORDER BY Name ASC, Total DESC;
```

```
mysql> select *, SUM(Science + English + Maths + Economics) as Total
-> FROM student_marks
-> GROUP BY Name
-> ORDER BY Name ASC, Total DESC;
```

Roll_NO	Name	Science	English	Maths	Economics	Total
1	divya	52	45	62	36	195
3	gayu	52	63	85	62	262
2	suraj	23	62	52	41	178
4	veena	52	62	39	41	194

4 rows in set (0.13 sec)

4. Add constraints in such a way that if a primary key related record is deleted then the corresponding record containing the foreign key should be deleted

**DELETE CASCADE:** When we create a foreign key using this option, it deletes the referencing rows in the child table when the referenced row is deleted in the parent table which has a primary key.

**Table 1 : Countries**

```
mysql> CREATE TABLE countries (CountryID int primary key, CountryName
Varchar(50), CountryCode varchar(3));
```

```
mysql> select * from countries;
```

CountryID	CountryName	CountryCode
101	INDIA	IN
102	United States	US
103	Australia	AUS
104	United Kingdom	UK

4 rows in set (0.18 sec)

**Table 2 : States**

```
mysql> CREATE TABLE states (StateID int Primary key, StateName
```

varchar(50),StateCode varchar(3),CountryID int);

```
mysql> select * from states;
```

StateID	StateName	StateCode	CountryID
1	Maharashtra	MU	101
2	Texas	TX	102
3	Arizona	AR	102
4	England	ENG	103
5	Gujarat	GUJ	101
6	London	LND	103

```
6 rows in set (0.00 sec)
```

```
mysql> ALTER TABLE states ADD CONSTRAINT FOREIGN KEY(CountryID)
REFERENCES Countries (CountryID) ON DELETE CASCADE;
```

```
mysql> DELETE FROM Countries WHERE CountryID = 102;
```

```
mysql> Delete from Countries where CountryID = 102;
Query OK, 1 row affected (2.13 sec)
```

```
mysql> select * from countries;
```

CountryID	CountryName	CountryCode
101	INDIA	IN
103	Australia	AUS
104	United Kingdom	UK

```
3 rows in set (0.00 sec)
```

```
mysql> select * from states;
```

StateID	StateName	StateCode	CountryID
1	Maharashtra	MU	101
4	England	ENG	103
5	Gujarat	GUJ	101
6	London	LND	103

```
4 rows in set (0.00 sec)
```

**5. Add constraints in such a way that if a primary key related record is deleted then the corresponding record containing the foreign key should be updated**

**UPDATE CASCADE:** When we create a foreign key using UPDATE CASCADE the referencing rows are updated in the child table when the referenced row is updated in the parent table which has a primary key.

```
mysql> ALTER TABLE states ADD CONSTRAINT FOREIGN KEY(CountryID)
REFERENCES Countries (CountryID) ON UPDATE CASCADE;
```

```
mysql> UPDATE states SET CountryID = 102 where CountryID = 103;
```