

SQL Assignment

Activity-1:

Create a table STUDENT with under mentioned structure by using SQL Statement:

StdID Number Primary Key
StdName Character (30) NOT NULL
Sex Character(6) Male or Female
Percentage Number
SClass Number
Sec Character
Stream Character(10) Science or Commerce
DOB Date Date of Birth

```
mysql> CREATE TABLE Student (StdID INT(4) PRIMARY KEY, StdName VARCHAR(30) NOT NULL, Sex
VARCHAR(6), Percentage int, SClass INT ,
    -> Sec VARCHAR(1), Stream VARCHAR(10), DOB DATE );
Query OK, 0 rows affected, 1 warning (0.02 sec)
```

Insert records into STUDENT table.

```
INSERT INTO Student VALUES (1001, 'AKSHRA AGARWAL', 'FEMALE', 70, 11, 'A', '10/11/1996');
```

```
mysql> INSERT INTO Student VALUES (1001, 'AKSHRA AGARWAL', 'FEMALE', 70, 11, 'A', 'science',
'10-11-1996');
```

```
mysql> INSERT INTO Student VALUES (1001, 'AKSHRA AGARWAL', 'FEMALE', 70, 11, 'A', 'science',
'10-11-1996');
```

```
ERROR 1292 (22007): Incorrect date value: '10-11-1996' for column 'DOB' at row 1
```

```
mysql> INSERT INTO Student VALUES (1001, 'AKSHRA AGARWAL','FEMALE',70,11,'A','science',  
'1996-11-10');
```

```
Query OK, 1 row affected (0.00 sec)
```

```
mysql> INSERT INTO Student VALUES (1002, 'ANJANI SHARMA','FEMALE',70,11,'A','commerce',  
'1996-11-10');
```

```
Query OK, 1 row affected (0.00 sec)
```

```
mysql> INSERT INTO Student VALUES (1002, 'ANSHUL SAXENA','MALE',78,11,'A','commerce',  
'1996-11-10');
```

```
ERROR 1062 (23000): Duplicate entry '1002' for key 'student.PRIMARY'
```

```
mysql> INSERT INTO Student VALUES (1003, 'ANSHUL SAXENA','MALE',78,11,'A','commerce',  
'1996-11-10');
```

```
Query OK, 1 row affected (0.00 sec)
```

```
mysql> INSERT INTO Student VALUES (1004, 'AISHWARYA','FEMALE',78,11,'A','commerce', '1996-11-19');
```

```
Query OK, 1 row affected (0.00 sec)
```

```
mysql> INSERT INTO Student VALUES (1005, 'AKRITI','FEMALE',78,11,'A','science', '1999-01-29');
```

```
Query OK, 1 row affected (0.00 sec)
```

```
mysql> select * from student;
```

StdID	StdName	Sex	Percentage	SClass	Sec	Stream	DOB
1001	AKSHRA AGARWAL	FEMALE	70	11	A	science	1996-11-10
1002	ANJANI SHARMA	FEMALE	70	11	A	commerce	1996-11-10
1003	ANSHUL SAXENA	MALE	78	11	A	commerce	1996-11-10
1004	AISHWARYA	FEMALE	78	11	A	commerce	1996-11-19
1005	AKRITI	FEMALE	78	11	A	science	1999-01-29

```
+-----+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

Activity- 2:

1) To display all the records form STUDENT table.

```
mysql> select * from student;
```

```
+-----+-----+-----+-----+-----+-----+-----+
| StdID | StdName          | Sex   | Percentage | SClass | Sec | Stream | DOB          |
+-----+-----+-----+-----+-----+-----+-----+
| 1001  | AKSHRA AGARWAL  | FEMALE | 70         | 11     | A   | science | 1996-11-10 |
| 1002  | ANJANI SHARMA   | FEMALE | 70         | 11     | A   | commerce | 1996-11-10 |
| 1003  | ANSHUL SAXENA   | MALE   | 78         | 11     | A   | commerce | 1996-11-10 |
| 1004  | AISHWARYA       | FEMALE | 78         | 11     | A   | commerce | 1996-11-19 |
| 1005  | AKRITI          | FEMALE | 78         | 11     | A   | science | 1999-01-29 |
+-----+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

2. To display only name and date of birth from the table STUDENT.

```
mysql> SELECT StdName, DOB FROM student ;
```

```
+-----+-----+
| StdName          | DOB          |
+-----+-----+
| AKSHRA AGARWAL  | 1996-11-10 |
| ANJANI SHARMA   | 1996-11-10 |
| ANSHUL SAXENA   | 1996-11-10 |
| AISHWARYA       | 1996-11-19 |
| AKRITI          | 1999-01-29 |
```

```
+-----+-----+
5 rows in set (0.00 sec)
```

3. To display all students' records where percentage is greater or equal to 80 FROM student table.

```
mysql> SELECT * FROM student WHERE percentage >= 80;
Empty set (0.00 sec)
```

```
mysql> update student set percentage=85 where stdId=1004;
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

```
mysql> select * from student;
```

```
+-----+-----+-----+-----+-----+-----+-----+-----+
| StdID | StdName          | Sex   | Percentage | SClass | Sec | Stream | DOB          |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 1001 | AKSHRA AGARWAL   | FEMALE | 70         | 11     | A   | science | 1996-11-10 |
| 1002 | ANJANI SHARMA    | FEMALE | 70         | 11     | A   | commerce | 1996-11-10 |
| 1003 | ANSHUL SAXENA    | MALE   | 78         | 11     | A   | commerce | 1996-11-10 |
| 1004 | AISHWARYA        | FEMALE | 85         | 11     | A   | commerce | 1996-11-19 |
| 1005 | AKRITI           | FEMALE | 78         | 11     | A   | science | 1999-01-29 |
+-----+-----+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

4. To display student name, stream and percentage where percentage of student is more than 80

```
mysql> SELECT * FROM student WHERE percentage >= 80;
```

```
+-----+-----+-----+-----+-----+-----+-----+-----+
| StdID | StdName  | Sex   | Percentage | SClass | Sec | Stream | DOB          |
+-----+-----+-----+-----+-----+-----+-----+-----+
```

```
| 1004 | AISHWARYA | FEMALE |      85 |      11 | A      | commerce | 1996-11-19 |
+-----+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)
```

```
mysql> SELECT StdName, Stream, Percentage WHERE percentage > 80;
ERROR 1054 (42S22): Unknown column 'StdName' in 'field list'
mysql> SELECT StdName, Stream, Percentage WHERE percentage > 80;
ERROR 1054 (42S22): Unknown column 'StdName' in 'field list'
```

5. To display all records of science students whose percentage is more than 75 form student table.

```
mysql> SELECT StdName, Stream, Percentage from student WHERE percentage > 80;
+-----+-----+-----+
| StdName | Stream | Percentage |
+-----+-----+-----+
| AISHWARYA | commerce |      85 |
+-----+-----+-----+
1 row in set (0.00 sec)
```

```
mysql> SELECT * From student WHERE stream = 'Science' AND percentage > 75;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to
your MySQL server version for the right syntax to use near '?Science? AND percentage > 75' at line
1
```

```
mysql> SELECT * From student WHERE stream = 'Science' AND percentage > 75;
+-----+-----+-----+-----+-----+-----+-----+
| StdID | StdName | Sex      | Percentage | SClass | Sec   | Stream | DOB          |
+-----+-----+-----+-----+-----+-----+-----+
| 1005 | AKRITI  | FEMALE  |      78 |      11 | A     | science | 1999-01-29 |
+-----+-----+-----+-----+-----+-----+-----+
```

1 row in set (0.00 sec)

Activity-3:

1. To display the STUDENT table structure.

DESCRIBE Student;

mysql> desc student;

Field	Type	Null	Key	Default	Extra
StdID	int	NO	PRI	NULL	
StdName	varchar(30)	NO		NULL	
Sex	varchar(6)	YES		NULL	
Percentage	int	YES		NULL	
SClass	int	YES		NULL	
Sec	varchar(1)	YES		NULL	
Stream	varchar(10)	YES		NULL	
DOB	date	YES		NULL	

8 rows in set (0.00 sec)

2. To add a column (FIELD) in the STUDENT table, for example TeacherID as VARCHAR(20);

mysql> ALTER TABLE Student ADD TeacherID VARCHAR(20);

Query OK, 0 rows affected (0.01 sec)

Records: 0 Duplicates: 0 Warnings: 0

3. Type the statement

DESC Student;

mysql> desc student;

Field	Type	Null	Key	Default	Extra
StdID	int	NO	PRI	NULL	
StdName	varchar(30)	NO		NULL	
Sex	varchar(6)	YES		NULL	
Percentage	int	YES		NULL	
SClass	int	YES		NULL	
Sec	varchar(1)	YES		NULL	
Stream	varchar(10)	YES		NULL	
DOB	date	YES		NULL	
TeacherID	varchar(20)	YES		NULL	

9 rows in set (0.00 sec)

4. Type the statement and press enter key, note the new field that you have added as TeacherID

```
mysql> select * from student;
```

```
+-----+-----+-----+-----+-----+-----+-----+-----+
-+
| StdID | StdName          | Sex   | Percentage | SClass | Sec  | Stream  | DOB          | TeacherID
|
+-----+-----+-----+-----+-----+-----+-----+-----+
-+
| 1001  | AKSHRA AGARWAL   | FEMALE | 70         | 11     | A    | science | 1996-11-10   | NULL
|
| 1002  | ANJANI SHARMA    | FEMALE | 70         | 11     | A    | commerce | 1996-11-10   | NULL
|
| 1003  | ANSHUL SAXENA    | MALE   | 78         | 11     | A    | commerce | 1996-11-10   | NULL
|
| 1004  | AISHWARYA        | FEMALE | 85         | 11     | A    | commerce | 1996-11-19   | NULL
|
| 1005  | AKRITI           | FEMALE | 78         | 11     | A    | science  | 1999-01-29   | NULL
|
+-----+-----+-----+-----+-----+-----+-----+-----+
-+
5 rows in set (0.00 sec)
```

5. To modify the TeacherID data type form character to integer.

```
mysql> ALTER TABLE Student MODIFY TeacherID INTEGER ;
Query OK, 5 rows affected (0.04 sec)
Records: 5  Duplicates: 0  Warnings: 0
```



```
mysql> DESC Student;
```

Field	Type	Null	Key	Default	Extra
StdID	int	NO	PRI	NULL	
StdName	varchar(30)	NO		NULL	
Sex	varchar(6)	YES		NULL	
Percentage	int	YES		NULL	
SClass	int	YES		NULL	
Sec	varchar(1)	YES		NULL	
Stream	varchar(10)	YES		NULL	
DOB	date	YES		NULL	
TeacherID	int	YES		NULL	

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

Activity-4:

1. To Drop (Delete) a field form a table. For e.g you wantto delete TeacherID field.

```
mysql> ALTER TABLE Student DROP TeacherID;
```

```
Query OK, 0 rows affected (0.01 sec)
```

```
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> select * from student;
```

StdID	StdName	Sex	Percentage	SClass	Sec	Stream	DOB
1001	AKSHRA AGARWAL	FEMALE	70	11	A	science	1996-11-10
1002	ANJANI SHARMA	FEMALE	70	11	A	commerce	1996-11-10
1003	ANSHUL SAXENA	MALE	78	11	A	commerce	1996-11-10
1004	AISHWARYA	FEMALE	85	11	A	commerce	1996-11-19
1005	AKRITI	FEMALE	78	11	A	science	1999-01-29

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

2. To subtract 5 form all students percentage and display name and percentage.

```
mysql> SELECT stdname, percentage - 5 FROM Student;
```

stdname	percentage - 5
AKSHRA AGARWAL	65
ANJANI SHARMA	65
ANSHUL SAXENA	73

AISHWARYA		80	
AKRITI		73	

+-----+

5 rows in set (0.00 sec)

3) Using column alise for example we want to display StdName as Student Name and DOB as Date of Birth then the statement will be.

```
mysql> SELECT StdName AS "Student Name",
-> DOB As "Date of Birth" FROM Student;
```

+-----+

Student Name		Date of Birth	
--------------	--	---------------	--

+-----+

AKSHRA AGARWAL		1996-11-10	
----------------	--	------------	--

ANJANI SHARMA		1996-11-10	
---------------	--	------------	--

ANSHUL SAXENA		1996-11-10	
---------------	--	------------	--

AISHWARYA		1996-11-19	
-----------	--	------------	--

AKRITI		1999-01-29	
--------	--	------------	--

+-----+

5 rows in set (0.00 sec)

4. Display the name of all students whose stream is not Science

```
mysql> Select stdName from student where stream='science';
```

+-----+

stdName	
---------	--

+-----+

AKSHRA AGARWAL	
----------------	--

AKRITI	
--------	--

+-----+

2 rows in set (0.00 sec)

5. Display all name and percentage where percentage is between 60 and 80

```
mysql> SELECT StdName, percentage FROM student WHERE percentage >=60 AND  
-> percentage<=80 ;
```

StdName	percentage
AKSHRA AGARWAL	70
ANJANI SHARMA	70
ANSHUL SAXENA	78
AKRITI	78

4 rows in set (0.00 sec)

Lab Activity 5:

1. To change a studentname from SWATIMISHRA to SWATIVERMA whose StdID is 1014 and also change percentage 86.

```
UPDATE Student SET StdName = 'SWATI VERMA', percentage = 86
WHERE StdId = 1014;
```

```
mysql> update tbl_student set StdName="SWATI VERMA",Percentage=86 where StdID=1014;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

2. To delete the records form student table where StdId is 1016.
DELETE FROM Student WHERE StdID = 1016;

```
mysql> delete from tbl_student where StdID=1016;
Query OK, 1 row affected (0.00 sec)
```

3. Type the following SQL statement and note the output.

```
SELECT * FROM Student WHERE StdName LIKE 'G_' ;
```

```
mysql> select * from tbl_student where StdName like 'G_';
Empty set (0.00 sec)
```

```
SELECT * FROM Student WHERE StdName='G';
```

```
mysql> select * from tbl_student where StdName='G';
Empty set (0.00 sec)
```

```
SELECT * FROM Student WHERE StdName LIKE 'G%' ;
```

```
mysql> select * from tbl_student where StdName like 'G%';  
Empty set (0.00 sec)
```

```
SELECT * WHERE Student WHERE StdName='%G%' ;
```

```
mysql> select * from tbl_student where StdName='%G';  
Empty set (0.00 sec)
```

4. Display all the streams in student table.

```
SELECT DISTINCT Stream FROM Student;
```

```
mysql> select distinct stream from tbl_student;  
+-----+  
| stream |  
+-----+  
| Science |  
| Commerce |  
+-----+  
2 rows in set (0.00 sec)
```

5. Note the output of the following statement.

SELECT StdName, Sex, Stream FROM Student WHERE percentage BETWEEN 70 AND 80;

mysql> select StdName, Sex, Stream from tbl_student where Percentage between 70 and 80;

StdName	Sex	Stream
AKSHRA AGARWAL	FEMALE	Science
ANJANI SHARMA	FEMALE	Commerce
ANSHUL SAXENA	MALE	Commerce
AISHWARYA SINGH	FEMALE	Commerce
AKRITI SAXENA	FEMALE	Commerce
KHUSHI AGARWAL	FEMALE	Commerce
MAAHI AGARWAL	FEMALE	Science
MITALI GUPTA	FEMALE	Science
TANI RASTOGI	FEMALE	Commerce
YASH SAXENA	MALE	Science

10 rows in set (0.00 sec)