

SQL Database Management: - p2

Field	Type	Null	Key	Default	Extra
student_id	int	YES		NULL	
name	varchar(100)	YES		NULL	
Gender	char(1)	YES		NULL	
age	int	YES		NULL	
Date_of_birth	date	YES		NULL	
fees	decimal(10,2)	YES		NULL	
city	varchar(100)	YES		NULL	
Country	varchar(100)	YES		NULL	

```
INSERT INTO table_name (column1, column2, column3, ... ) → parameter
VALUES (value1, value2, value3, ...);
```

argument.

parameter should be correspond to your argument.

26 • SELECT * FROM Student;								
--								
Result Grid Filter Rows: Export: Wrap Cell Content: T								
	student_id	name	Gender	age	Date_of_birth	fees	city	Country

Structure is ready but no data inserted so far

```
25 • USES Student;
26 • SELECT * FROM Student;
27
28 • INSERT INTO Student(student_id , name , gender , age , Date_of_birth , fees , city , Country)
29 VALUES(123234 , "Hitesh" , 'M' , 24 , "1998-12-21" , 10000.00 , "Delhi" , "India");
30 • INSERT INTO Student()
31 VALUES();
32
```

Result Grid Filter Rows: Export: Wrap Cell Content: T							
student_id name Gender age Date_of_birth fees city Country							
123234	Hitesh	M	24	1998-12-21	10000.00	Delhi	India
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

```
) CREATE TABLE Student(
    student_id int,
    name varchar(100),
    Gender char(1),
    age int,
    Date_of_birth date,
    fees decimal(10,2),
    city varchar(100),
    Country varchar(100)
);
```

Custom date and time formats

1:25:59 pm

1:25 pm

05/08 13:25

Tuesday 5 August 1930

05/08/1930

13:25:59

Tuesday 5 August 1930 at 13:25:59

Tuesday 5 August 1930, 13:25:59

Specifier	Description
%a	Abbreviated weekday name (Sun..Sat)
%b	Abbreviated month name (Jan..Dec)
%c	Month, numeric (0..12)
%D	Day of the month with English suffix (0th, 1st, 2nd, 3rd, ...)
%d	Day of the month, numeric (00..31)
%e	Day of the month, numeric (0..31)
%f	Microseconds (000000..999999)
%H	Hour (00..23)
%h	Hour (01..12)
%I	Hour (01..12)
%i	Minutes, numeric (00..59)
%j	Day of year (001..366)
%k	Hour (0..23)
%l	Hour (1..12)

```

33 •  INSERT INTO Student(student_id , name , gender , age , Date_of_birth , fees , city , Country)
34     VALUES(123235, "Rohini" , 'F' , 23 , "1999-10-24" , 10000.00 , "Pune" , "India"),
35     (123236, "Bikash" , 'M' , 25 , "1997-11-22" , 10000.00 , "Indore" , "India");
36

```

Result Grid | Filter Rows: Export: Wrap Cell Content:

student_id	name	Gender	age	Date_of_birth	fees	city	Country
123234	Hitesh	M	24	1998-12-21	10000.00	Delhi	India
123235	Rohini	F	23	1999-10-24	10000.00	Pune	India
123236	Bikash	M	25	1997-11-22	10000.00	Indore	India

```

UPDATE table_name
SET column1 = value1, column2 = value2, ...
WHERE condition;

```

age	Date_of_birth
24	1998-12-21
NULL	NULL
25	1999-10-24
23	1997-11-22
25	1997-11-22
26	1998-12-21

```

mysql> UPDATE Student
-> SET age = 25
-> WHERE student_id = 123234;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> SELECT * FROM Student;
+-----+-----+-----+-----+-----+-----+-----+-----+
| student_id | name | Gender | age | Date_of_birth | fees | city | Country |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 123234 | Hitesh | M | 25 | 1998-12-21 | 10000.00 | Delhi | India |
| NULL |
| 123235 | Rohini | F | 23 | 1999-10-24 | 10000.00 | Pune | India |
| 123236 | Bikash | M | 25 | 1997-11-22 | 10000.00 | Indore | India |
+-----+-----+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

```

```

mysql> UPDATE Student
-> SET age = 25
-> WHERE student_id = 123234 OR student_id = 123235;
Query OK, 2 rows affected (0.01 sec)
Rows matched: 2  Changed: 2  Warnings: 0

mysql> SELECT * FROM Student;
+-----+-----+-----+-----+-----+-----+-----+-----+
| student_id | name | Gender | age | Date_of_birth | fees | city | Country |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 123234 | Hitesh | M | 25 | 1998-12-21 | 10000.00 | Delhi | India |
| NULL |
| 123235 | Rohini | F | 25 | 1999-10-24 | 10000.00 | Pune | India |
| 123236 | Bikash | M | 25 | 1997-11-22 | 10000.00 | Indore | India |
+-----+-----+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

```

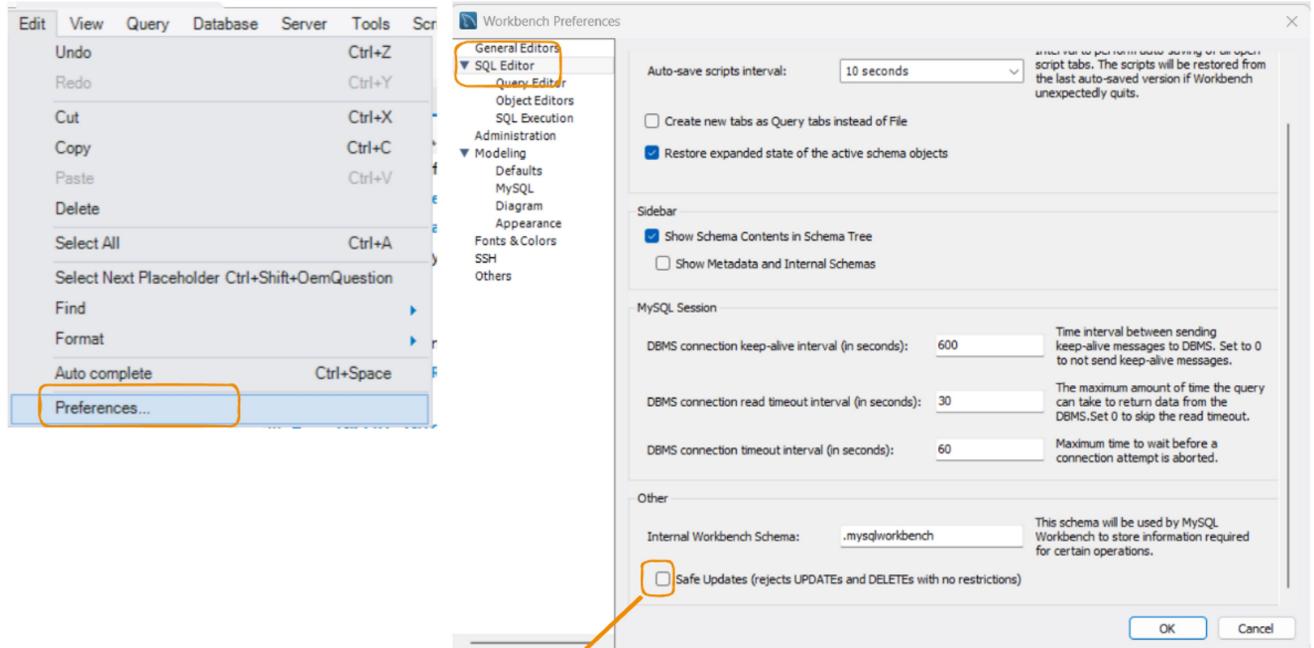
```

mysql> UPDATE Student SET age = 26
-> WHERE name = "Bikash"; Country = "India"
Query OK, 1 row affected (0.00 sec)
Rows matched: 1  Changed: 1  Warnings: 0

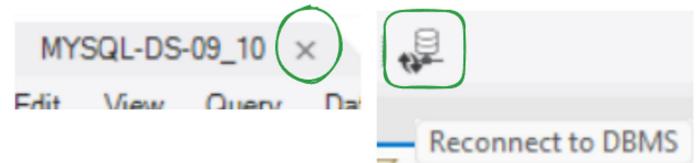
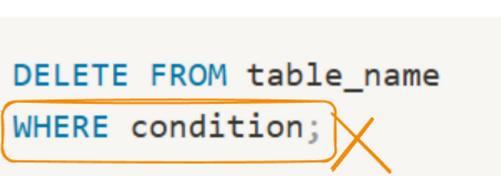
mysql> SELECT * FROM Student;
+-----+-----+-----+-----+-----+-----+-----+-----+
| student_id | name | Gender | age | Date_of_birth | fees | city | Country |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 123234 | Hitesh | M | 25 | 1998-12-21 | 10000.00 | Delhi | India |
| NULL |
| 123235 | Rohini | F | 25 | 1999-10-24 | 10000.00 | Pune | India |
| 123236 | Bikash | M | 26 | 1997-11-22 | 10000.00 | Indore | India |
+-----+-----+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec) 26

```

To get an exit from safe mode :



uncheck --- To off the Safe Mode >> Then Reconnect.



```
mysql> DELETE FROM Student  
-> Where Student_id is null;  
Query OK, 1 row affected (0.01 sec) = null X --- is null ✓
```

```
mysql> SELECT * FROM Student;  
+-----+-----+-----+-----+-----+-----+-----+-----+  
| student_id | name | Gender | age | Date_of_birth | fees | city | Country |  
+-----+-----+-----+-----+-----+-----+-----+-----+  
| 123234 | Hitesh | M | 25 | 1998-12-21 | 10000.00 | Delhi | India |  
| 123235 | Rohini | F | 25 | 1999-10-24 | 10000.00 | Pune | India |  
| 123236 | Bikash | M | 26 | 1997-11-22 | 10000.00 | Indore | India |  
+-----+-----+-----+-----+-----+-----+-----+-----+  
3 rows in set (0.00 sec)
```

```

mysql> DELETE FROM Student;
Query OK, 3 rows affected (0.01 sec)

mysql> SELECT * FROM Student;
Empty set (0.00 sec)

```

```

mysql> INSERT INTO Student(student_id , name , gender , age , Date_of_birth , fees , city , Country)
-> VALUES(123234, "Hitesh" , 'M' , 24 , "1998-12-21" , 10000.00 , "Delhi", "India");
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Student(student_id , name , gender , age , Date_of_birth , fees , city , Country)
-> VALUES(123235, "Rohini" , 'F' , 23 , "1999-10-24" , 10000.00 , "Pune", "India"),
-> (123236, "Bikash" , 'M' , 25 , "1997-11-22" , 10000.00 , "Indore", "India");
Query OK, 2 rows affected (0.00 sec)
Records: 2 Duplicates: 0 Warnings: 0

mysql> UPDATE Student
-> SET age = 25
-> WHERE student_id = 123234 OR student_id = 123235;
Query OK, 2 rows affected (0.00 sec)
Rows matched: 2 Changed: 2 Warnings: 0

mysql> UPDATE Student Set age = 26 where name = "Bikash";
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> SELECT * FROM Student;
+-----+-----+-----+-----+-----+-----+-----+-----+
| student_id | name | Gender | age | Date_of_birth | fees | city | Country |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 123234 | Hitesh | M | 25 | 1998-12-21 | 10000.00 | Delhi | India |
| 123235 | Rohini | F | 25 | 1999-10-24 | 10000.00 | Pune | India |
| 123236 | Bikash | M | 26 | 1997-11-22 | 10000.00 | Indore | India |
+-----+-----+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql>

```

Won't work

```

mysql> DELETE FROM Student where name = "Null";
Query OK, 0 rows affected (0.00 sec)

mysql> SELECT * FROM Student;
+-----+-----+-----+-----+-----+-----+-----+-----+
| student_id | name | Gender | age | Date_of_birth | fees | city | Country |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 123234 | Hitesh | M | 25 | 1998-12-21 | 10000.00 | Delhi | India |
| 123235 | Rohini | F | 25 | 1999-10-24 | 10000.00 | Pune | India |
| 123236 | Bikash | M | 26 | 1997-11-22 | 10000.00 | Indore | India |
| NULL |
+-----+-----+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql> DELETE FROM Student where name = Null;
Query OK, 0 rows affected (0.00 sec)

mysql> SELECT * FROM Student;
+-----+-----+-----+-----+-----+-----+-----+-----+
| student_id | name | Gender | age | Date_of_birth | fees | city | Country |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 123234 | Hitesh | M | 25 | 1998-12-21 | 10000.00 | Delhi | India |
| 123235 | Rohini | F | 25 | 1999-10-24 | 10000.00 | Pune | India |
| 123236 | Bikash | M | 26 | 1997-11-22 | 10000.00 | Indore | India |
| NULL |
+-----+-----+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql> DELETE FROM Student where name is Null;
Query OK, 1 row affected (0.01 sec)

mysql> SELECT * FROM Student;
+-----+-----+-----+-----+-----+-----+-----+-----+
| student_id | name | Gender | age | Date_of_birth | fees | city | Country |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 123234 | Hitesh | M | 25 | 1998-12-21 | 10000.00 | Delhi | India |
| 123235 | Rohini | F | 25 | 1999-10-24 | 10000.00 | Pune | India |
| 123236 | Bikash | M | 26 | 1997-11-22 | 10000.00 | Indore | India |
+-----+-----+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

```

Works :)

```
mysql> UPDATE Student  
-> SET age = null  
-> WHERE name = "Hitesh"  
->  
Query OK, 1 row affected (0.01 sec)  
Rows matched: 1  Changed: 1  Warnings: 0
```

```
mysql> SELECT * FROM Student;  
+-----+-----+-----+-----+-----+-----+-----+  
| student_id | name | Gender | age | Date_of_birth | fees | city | Country |  
+-----+-----+-----+-----+-----+-----+-----+  
| 123234 | Hitesh | M | NULL | 1998-12-21 | 10000.00 | Delhi | India |  
| 123235 | Rohini | F | 25 | 1999-10-24 | 10000.00 | Pune | India |  
| 123236 | Bikash | M | 26 | 1997-11-22 | 10000.00 | Indore | India |  
+-----+-----+-----+-----+-----+-----+-----+  
3 rows in set (0.00 sec)
```

```
mysql> UPDATE Student SET name = "" WHERE name = "Hitesh";  
Query OK, 1 row affected (0.01 sec)  
Rows matched: 1  Changed: 1  Warnings: 0
```

```
mysql> SELECT * FROM Student;  
+-----+-----+-----+-----+-----+-----+-----+  
| student_id | name | Gender | age | Date_of_birth | fees | city | Country |  
+-----+-----+-----+-----+-----+-----+-----+  
| 123234 | [REDACTED] | M | NULL | 1998-12-21 | 10000.00 | Delhi | India |  
| 123235 | Rohini | F | 25 | 1999-10-24 | 10000.00 | Pune | India |  
| 123236 | Bikash | M | 26 | 1997-11-22 | 10000.00 | Indore | India |  
+-----+-----+-----+-----+-----+-----+-----+  
3 rows in set (0.00 sec)
```

```
mysql> UPDATE Student SET name = "";  
Query OK, 2 rows affected (0.00 sec)  
Rows matched: 3  Changed: 2  Warnings: 0
```

```
No specific location provided.  
mysql> SELECT * FROM Student;  
+-----+-----+-----+-----+-----+-----+-----+  
| student_id | name | Gender | age | Date_of_birth | fees | city | Country |  
+-----+-----+-----+-----+-----+-----+-----+  
| 123234 | [REDACTED] | M | NULL | 1998-12-21 | 10000.00 | Delhi | India |  
| 123235 | [REDACTED] | F | 25 | 1999-10-24 | 10000.00 | Pune | India |  
| 123236 | [REDACTED] | M | 26 | 1997-11-22 | 10000.00 | Indore | India |  
+-----+-----+-----+-----+-----+-----+-----+  
3 rows in set (0.00 sec)
```

1. Adding a Column

To add a new column to a table, you would use the `ALTER TABLE` command specifying the column name and its data type.

```
ALTER TABLE table_name  
ADD COLUMN column_name datatype;
```

```
--  
45 • ALTER TABLE Student  
46 ADD COLUMN PinCode Int;
```

student_id	name	Gender	age	Date_of_birth	fees	city	Country	PinCode
123234	Hitesh	M	25	1998-12-21	10000.00	Delhi	India	NULL
123235	Rohini	F	25	1999-10-24	10000.00	Pune	India	NULL
123236	Bikash	M	26	1997-11-22	10000.00	Indore	India	NULL

Chhatrapal Singh Chouhan to Everyone 21:33
so it's better to create sketch on pen paper and think twice then only create table

```
mysql> SELECT * FROM Student;  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
| student_id | name | Gender | age | Date_of_birth | fees | city | Country | PinCode |  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
| 123234 | Hitesh | M | 25 | 1998-12-21 | 10000.00 | Delhi | India | NULL |  
| 123235 | Rohini | F | 25 | 1999-10-24 | 10000.00 | Pune | India | NULL |  
| 123236 | Bikash | M | 26 | 1997-11-22 | 10000.00 | Indore | India | NULL |  
+-----+-----+-----+-----+-----+-----+-----+-----+-----+  
3 rows in set (0.00 sec)
```

2. Dropping a Column

To remove a column from a table, you use the `ALTER TABLE` command specifying the column name.

```
ALTER TABLE table_name  
DROP COLUMN column_name;
```

```
--  
48 • ALTER TABLE Student  
49 DROP COLUMN PinCode;
```

student_id	name	Gender	age	Date_of_birth	fees	city	Country
123234	Hitesh	M	25	1998-12-21	10000.00	Delhi	India
123235	Rohini	F	25	1999-10-24	10000.00	Pune	India
123236	Bikash	M	26	1997-11-22	10000.00	Indore	India

```

mysql> ALTER TABLE Student
-> ADD COLUMN PinCode Int;
Query OK, 0 rows affected (0.02 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> SELECT * FROM Student;
+-----+-----+-----+-----+-----+-----+-----+-----+
| student_id | name | Gender | age | Date_of_birth | fees | city | Country | PinCode |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 123234 | Hitesh | M | 25 | 1998-12-21 | 10000.00 | Delhi | India | NULL |
| 123235 | Rohini | F | 25 | 1999-10-24 | 10000.00 | Pune | India | NULL |
| 123236 | Bikash | M | 26 | 1997-11-22 | 10000.00 | Indore | India | NULL |
+-----+-----+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> ALTER TABLE Student DROP COLUMN PinCode;
Query OK, 0 rows affected (0.02 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> SELECT * FROM Student;
+-----+-----+-----+-----+-----+-----+-----+
| student_id | name | Gender | age | Date_of_birth | fees | city | Country |
+-----+-----+-----+-----+-----+-----+-----+
| 123234 | Hitesh | M | 25 | 1998-12-21 | 10000.00 | Delhi | India |
| 123235 | Rohini | F | 25 | 1999-10-24 | 10000.00 | Pune | India |
| 123236 | Bikash | M | 26 | 1997-11-22 | 10000.00 | Indore | India |
+-----+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

```

```

mysql> INSERT INTO Student()
-> VALUES();
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO Student()
-> VALUES();
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO Student()
-> VALUES();
Query OK, 1 row affected (0.00 sec)

mysql> SELECT * FROM Student;
+-----+-----+-----+-----+-----+-----+-----+
| student_id | name | Gender | age | Date_of_birth | fees | city | Country |
+-----+-----+-----+-----+-----+-----+-----+
| 123234 | Hitesh | M | 25 | 1998-12-21 | 10000.00 | Delhi | India |
| 123235 | Rohini | F | 25 | 1999-10-24 | 10000.00 | Pune | India |
| 123236 | Bikash | M | 26 | 1997-11-22 | 10000.00 | Indore | India |
| NULL |
| NULL |
| NULL |
+-----+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

```

```

mysql> UPDATE Student
-> SET student_id = 123237 , name = "Vinay" , Gender = 'M' , age = 24 ,
-> fees = 11000.00 , city = "Gaya" , Country = "India"
-> WHERE student_id is null;
Query OK, 3 rows affected (0.00 sec)
Rows matched: 3  Changed: 3  Warnings: 0

```

```

mysql> SELECT * FROM Student;
+-----+-----+-----+-----+-----+-----+-----+
| student_id | name | Gender | age | Date_of_birth | fees | city | Country |
+-----+-----+-----+-----+-----+-----+-----+
| 123234 | Hitesh | M | 25 | 1998-12-21 | 10000.00 | Delhi | India |
| 123235 | Rohini | F | 25 | 1999-10-24 | 10000.00 | Pune | India |
| 123236 | Bikash | M | 26 | 1997-11-22 | 10000.00 | Indore | India |
| 123237 | Vinay | M | 24 | NULL | 11000.00 | Gaya | India |
| 123237 | Vinay | M | 24 | NULL | 11000.00 | Gaya | India |
| 123237 | Vinay | M | 24 | NULL | 11000.00 | Gaya | India |
+-----+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

```

3. Modifying a Column

To change the data type of a column in a table, you use **MODIFY COLUMN** or **ALTER COLUMN** (depending on your name and the new data type).

SQL

```
ALTER TABLE table_name  
MODIFY COLUMN column_name new_datatype;
```

57 • ALTER TABLE Student

```
58    MODIFY COLUMN student_id varchar(265);
```

```
59 • DESC Student;
```

	Field	Type	int	Null	Key	Default	Extra
▶	student_id	varchar(265)		YES		NULL	
	name	varchar(100)		YES		NULL	
	Gender	char(1)		YES		NULL	
	age	int		YES		NULL	
	Date_of_birth	date		YES		NULL	
	fees	decimal(10,2)		YES		NULL	
	city	varchar(100)		YES		NULL	
	Country	varchar(100)		YES		NULL	

is null

```
61 • INSERT INTO Student(student_id , name , gender , age , Date_of_birth , fees , city , Country)  
62   VALUES("123456A" , "Hitesh" , 'M' , 24 , "1998-12-21" , 10000.00 , "Delhi" , "India");  
63  
64 • SELECT * FROM Student;
```

varchar to int;

student_id	name	Gender	age	Date_of_birth	fees	city	Country
123234	Hitesh	M	25	1998-12-21	10000.00	Delhi	India
123235	Rohini	F	25	1999-10-24	10000.00	Pune	India
123236	Bikash	M	26	1997-11-22	10000.00	Indore	India
123237	Vinay	M	24	NULL	11000.00	Gaya	India
123237	Vinay	M	24	NULL	11000.00	Gaya	India
123237	Vinay	M	24	NULL	11000.00	Gava	India
▶ 123456A	Hitesh	M	24	1998-12-21	10000.00	Delhi	India

int --- String ---- Conversion is possible;
BUT String can't convert to int;

```
mysql> ALTER TABLE Student  
-> MODIFY COLUMN name int;  
ERROR 1366 (HY000): Incorrect integer value: 'Hitesh' for column 'name' at row 1  
mysql>
```