

1.

```
mysql> create database PL6;
Query OK, 1 row affected (0.00 sec)

mysql> use PL6
Database changed
mysql> |
```

2.

```
mysql> create table employee(employeeID integer primary key auto_increment, F_name varchar(20) not
null, L_name varchar(20) not null, Gender varchar(2), salary integer, department varchar(30));
Query OK, 0 rows affected (0.02 sec)
```

3.

```
mysql> insert into employee(F_name, L_name, Gender, salary, department) values("Aarav", "Sharma",
"M", 65000, "HR");
Query OK, 1 row affected (0.00 sec)

mysql> insert into employee(F_name, L_name, Gender, salary, department) values("Ishita", "Verma",
"F", 72000, "IR"), (;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to you
r MySQL server version for the right syntax to use near ';' at line 1
mysql> insert into employee(F_name, L_name, Gender, salary, department) values("Ishita", "Verma",
"F", 72000, "IR"), ("Pooja", "Iyer", "F", 58000, "Finance"), ("Sneha", "Rao", "F", 60000, "Marketi
ng"), ("Vikram", "Nair", "M", 68000, "Sales"), ("Rohan", "Patel", "M", 59000, "Finance");
Query OK, 5 rows affected (0.00 sec)
Records: 5 Duplicates: 0 Warnings: 0
```

4.

```
mysql> select * from employee;
+-----+-----+-----+-----+-----+-----+
| employeeID | F_name | L_name | Gender | salary | department |
+-----+-----+-----+-----+-----+-----+
| 101 | Aarav | Sharma | M | 65000 | HR |
| 102 | Ishita | Verma | F | 72000 | IR |
| 103 | Pooja | Iyer | F | 58000 | Finance |
| 104 | Sneha | Rao | F | 60000 | Marketing |
| 105 | Vikram | Nair | M | 68000 | Sales |
| 106 | Rohan | Patel | M | 59000 | Finance |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)
```

5.

```
mysql> create index department_index on employee(department);
Query OK, 0 rows affected (0.03 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

6.

```
mysql> create index salary_index on employee(salary);
Query OK, 0 rows affected (0.03 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

7.

```
mysql> select concat(F_name, " ", L_name) as Name from employee;
+-----+
| Name |
+-----+
| Aarav Sharma |
| Ishita Verma |
| Pooja Iyer |
| Sneha Rao |
| Vikram Nair |
| Rohan Patel |
+-----+
6 rows in set (0.00 sec)
```

8.

```
mysql> EXPLAIN SELECT * FROM employee WHERE first_name = 'Rohan' AND last_name = 'Patel';
ERROR 1054 (42S22): Unknown column 'first_name' in 'where clause'
mysql> EXPLAIN SELECT * FROM employee WHERE f_name = 'Rohan' AND l_name = 'Patel';
+----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| id | select_type | table | partitions | type | possible_keys | key | key_len | ref | rows | filtered | Extra |
+----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | SIMPLE | employee | NULL | ALL | NULL | NULL | NULL | NULL | 6 | 16.67 | Using where |
+----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
1 row in set, 1 warning (0.00 sec)

mysql> create index name_index on employee(F_Name, L_name);
Query OK, 0 rows affected (0.02 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> EXPLAIN SELECT * FROM employee WHERE first_name = 'Rohan' AND last_name = 'Patel';
ERROR 1054 (42S22): Unknown column 'first_name' in 'where clause'
mysql> EXPLAIN SELECT * FROM employee WHERE f_name = 'Rohan' AND l_name = 'Patel';
+----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| id | select_type | table | partitions | type | possible_keys | key | key_len | ref | rows | filtered | Extra |
+----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | SIMPLE | employee | NULL | ref | name_index | name_index | 44 | const,const | 1 | 100.00 | NULL |
+----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
1 row in set, 1 warning (0.00 sec)
```

9.

```
mysql> show index from employee;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| Table | Non_unique | Key_name | Seq_in_index | Column_name | Collation | Cardinality | Sub_part | Packed | Null | Index_type | Comment | Index_comment |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| employee | 0 | PRIMARY | 1 | employeeID | A | 6 | NULL | NULL | YES | BTREE | | |
| employee | 1 | department_index | 1 | department | A | 5 | NULL | NULL | YES | BTREE | | |
| employee | 1 | salary_index | 1 | salary | A | 6 | NULL | NULL | YES | BTREE | | |
| employee | 1 | name_index | 1 | F_name | A | 6 | NULL | NULL | YES | BTREE | | |
| employee | 1 | name_index | 2 | L_name | A | 6 | NULL | NULL | YES | BTREE | | |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

10.

```
mysql> drop index department_index on employee;
Query OK, 0 rows affected (0.01 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> drop index salary_index on employee;
Query OK, 0 rows affected (0.01 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> drop index name_index on employee;
Query OK, 0 rows affected (0.01 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> show index from employee;
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| Table | Non_unique | Key_name | Seq_in_index | Column_name | Collation | Cardinality | Sub_part | Packed | Null | Index_type | Comment | Index_comment |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| employee | 0 | PRIMARY | 1 | employeeID | A | 6 | NULL | NULL | | BTREE | | |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)
```

11.

```
mysql> create view high_salary as
-> select * from employee
-> where salary>60000;
Query OK, 0 rows affected (0.00 sec)
```

12.

```
mysql> create view salary_above_avg as
-> select f_name, l_name, salary, department
-> from employee
-> where salary>(select avg(salary) from employee);
Query OK, 0 rows affected (0.01 sec)
```

13.

```
mysql> select * from salary_above_avg;
ERROR 1146 (42S02): Table 'pl6.salary_above_avg' doesn't exist
mysql> select * from salary_above_acg;
+-----+-----+-----+-----+
| f_name | l_name | salary | department |
+-----+-----+-----+-----+
| Aarav | Sharma | 65000 | HR |
| Ishita | Verma | 72000 | IR |
| Vikram | Nair | 68000 | Sales |
+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

```
mysql> select * from salary_above_acg;
+-----+-----+-----+-----+
| f_name | l_name | salary | department |
+-----+-----+-----+-----+
| Aarav | Sharma | 65000 | HR |
| Ishita | Verma | 72000 | IR |
| Vikram | Nair | 68000 | Sales |
+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

14.

```
mysql> create or replace view salary_above_acg as
-> select f_name, l_name, salary
-> from employee
-> where salary > (select avg(salary) from employee);
Query OK, 0 rows affected (0.01 sec)

mysql> select * from salary_above_acg;
+-----+-----+-----+
| f_name | l_name | salary |
+-----+-----+-----+
| Aarav  | Sharma | 65000  |
| Ishita | Verma  | 72000  |
| Vikram | Nair   | 68000  |
+-----+-----+-----+
3 rows in set (0.00 sec)
```

15.

```
mysql> drop view salary_above_acg;
Query OK, 0 rows affected (0.00 sec)

mysql> drop view high_salary;
Query OK, 0 rows affected (0.00 sec)

mysql>
```