Tasks:

T1:

```
MariaDB [labtask3]> select count(distinct(emp_num)) "number of employees" from hours;
+---------------------+
| number of employees |
+---------------------+
|                   5 |
+---------------------+
1 row in set (0.001 sec)
```

T2:

When we use steric we gets all entries including null entries but when we don't use star we gets only non-null entries.

```
MariaDB [labtask3]> SELECT COUNT(*)
    -> FROM ATTRACTION;
+----------+
| COUNT(*) |
+----------+
|       11 |
+----------+
1 row in set (0.000 sec)

MariaDB [labtask3]> SELECT COUNT(ATTRACT_NAME)
    -> FROM ATTRACTION;
+---------------------+
| COUNT(ATTRACT_NAME) |
+---------------------+
|                  10 |
+---------------------+
1 row in set (0.000 sec)
```

T3:

```
MariaDB [labtask3]> select MIN(TICKET_PRICE),max(TICKET_PRICE)
    -> FROM TICKET;
+-------------------+-------------------+
| MIN(TICKET_PRICE) | max(TICKET_PRICE) |
+-------------------+-------------------+
|             10.99 |             42.10 |
+-------------------+-------------------+
1 row in set (0.001 sec)
```

T4:

When we miss group by clause, we will get only one row in result.

```
MariaDB [labtask3]> SELECT PARK_CODE, MIN(TICKET_PRICE),MAX(TICKET_PRICE)
    -> FROM TICKET
    -> GROUP BY PARK_CODE;
+-----------+-------------------+-------------------+
| PARK_CODE | MIN(TICKET_PRICE) | MAX(TICKET_PRICE) |
+-----------+-------------------+-------------------+
| FR1001    |             18.99 |             34.99 |
| SP4533    |             10.99 |             24.99 |
| UK3452    |             10.99 |             42.10 |
| ZA1342    |             12.12 |             28.67 |
+-----------+-------------------+-------------------+
4 rows in set (0.000 sec)

MariaDB [labtask3]> SELECT PARK_CODE, MIN(TICKET_PRICE),MAX(TICKET_PRICE)
    -> FROM TICKET
    -> ;
+-----------+-------------------+-------------------+
| PARK_CODE | MIN(TICKET_PRICE) | MAX(TICKET_PRICE) |
+-----------+-------------------+-------------------+
| SP4533    |             10.99 |             42.10 |
+-----------+-------------------+-------------------+
1 row in set (0.000 sec)
```

T5:

When we dont specify the themepark.park_code. myqsl will be confused to know that which park-code we are referring to.

```
MariaDB [labtask3]> SELECT THEMEPARK.PARK_CODE, PARK_NAME, ATTRACT_NAME,
    -> ATTRACT_CAPACITY
    -> FROM THEMEPARK, ATTRACTION
    -> WHERE THEMEPARK.PARK_CODE = ATTRACTION.PARK_CODE;
+-----------+-------------+----------------+------------------+
| PARK_CODE | PARK_NAME   | ATTRACT_NAME   | ATTRACT_CAPACITY |
+-----------+-------------+----------------+------------------+
| FR1001    | FairyLand   | ThunderCoaster |               34 |
| FR1001    | FairyLand   | SpinningTeacups|               62 |
| FR1001    | FairyLand   | FlightToStars  |               24 |
| FR1001    | FairyLand   | Ant-Trap       |               30 |
| ZA1342    | GoldTown    | NULL           |               40 |
| FR1001    | FairyLand   | Carnival       |              120 |
| UK3452    | PleasureLand| 3D-Lego_Show   |              200 |
| UK3452    | PleasureLand| BlackHole2     |               34 |
| UK3452    | PleasureLand| Pirates        |               42 |
| UK3452    | PleasureLand| UnderSeaWord   |               80 |
| ZA1342    | GoldTown    | GoldRush       |               80 |
+-----------+-------------+----------------+------------------+
11 rows in set (0.001 sec)

MariaDB [labtask3]> SELECT PARK_CODE, PARK_NAME, ATTRACT_NAME,
    -> ATTRACT_CAPACITY
    -> FROM THEMEPARK, ATTRACTION
    -> WHERE THEMEPARK.PARK_CODE = ATTRACTION.PARK_CODE;
ERROR 1052 (23000): Column 'PARK_CODE' in field list is ambiguous
MariaDB [labtask3]>
```

T6:

```
MariaDB [labtask3]> SELECT THEMEPARK.PARK_CODE, PARK_NAME, ATTRACT_NAME
    -> FROM THEMEPARK LEFT JOIN ATTRACTION ON
    -> THEMEPARK.PARK_CODE = ATTRACTION.PARK_CODE;
+-----------+---------------+----------------+
| PARK_CODE | PARK_NAME     | ATTRACT_NAME   |
+-----------+---------------+----------------+
| FR1001    | FairyLand     | ThunderCoaster |
| FR1001    | FairyLand     | SpinningTeacups |
| FR1001    | FairyLand     | FlightToStars  |
| FR1001    | FairyLand     | Ant-Trap       |
| FR1001    | FairyLand     | Carnival       |
| NL1202    | Efling        | NULL           |
| SP4533    | AdventurePort | NULL           |
| SW2323    | Labyrinthe    | NULL           |
| UK2622    | MiniLand      | NULL           |
| UK3452    | PleasureLand  | 3D-Lego_Show   |
| UK3452    | PleasureLand  | BlackHole2     |
| UK3452    | PleasureLand  | Pirates        |
| UK3452    | PleasureLand  | UnderSeaWord   |
| ZA1342    | GoldTown      | NULL           |
| ZA1342    | GoldTown      | GoldRush       |
+-----------+---------------+----------------+
15 rows in set (0.001 sec)
```

T7:

```
MariaDB [labtask3]> SELECT THEMEPARK.PARK_CODE, PARK_NAME, ATTRACT_NAME
    -> FROM THEMEPARK RIGHT JOIN ATTRACTION ON
    -> THEMEPARK.PARK_CODE = ATTRACTION.PARK_CODE;
+-----------+--------------+----------------+
| PARK_CODE | PARK_NAME    | ATTRACT_NAME   |
+-----------+--------------+----------------+
| FR1001    | FairyLand    | ThunderCoaster |
| FR1001    | FairyLand    | SpinningTeacups |
| FR1001    | FairyLand    | FlightToStars  |
| FR1001    | FairyLand    | Ant-Trap       |
| ZA1342    | GoldTown     | NULL           |
| FR1001    | FairyLand    | Carnival       |
| UK3452    | PleasureLand | 3D-Lego_Show   |
| UK3452    | PleasureLand | BlackHole2     |
| UK3452    | PleasureLand | Pirates        |
| UK3452    | PleasureLand | UnderSeaWord   |
| ZA1342    | GoldTown     | GoldRush       |
+-----------+--------------+----------------+
11 rows in set (0.001 sec)
```

Exercise:

E4.1:

```
MariaDB [labtask3]> SELECT AVG(HOUR_RATE) FROM HOURS
    -> ;
+----------------+
| AVG(HOUR_RATE) |
+----------------+
|       7.033636 |
+----------------+
1 row in set (0.001 sec)
```

E4.2:

```
MariaDB [labtask3]> SELECT park_code ,AVG(attract_age) FROM attraction
    -> group by park_code
    -> having park_code='UK3452';
+-----------+------------------+
| park_code | AVG(attract_age) |
+-----------+------------------+
| UK3452    |           7.2500 |
+-----------+------------------+
```

E4.3:

```
MariaDB [labtask3]> select emp_num,sum(hours_per_attract)
    -> from hours
    -> group by emp_num;
+---------+------------------------+
| emp_num | sum(hours_per_attract) |
+---------+------------------------+
|     100 |                     12 |
|     101 |                      6 |
|     102 |                     12 |
|     104 |                     12 |
|     105 |                     12 |
+---------+------------------------+
5 rows in set (0.001 sec)
```

E4.4:

```
MariaDB [labtask3]> select attract_no , min(hour_rate),max(hour_rate)
    -> from hours
    -> group by attract_no
    -> ;
+------------+----------------+----------------+
| attract_no | min(hour_rate) | max(hour_rate) |
+------------+----------------+----------------+
|      10034 |           6.50 |           6.50 |
|      10078 |           8.50 |           8.50 |
|      10098 |           8.50 |           8.50 |
|      30011 |           7.20 |           7.20 |
|      30012 |           5.99 |           7.20 |
|      30044 |           5.99 |           5.99 |
+------------+----------------+----------------+
6 rows in set (0.001 sec)
```

E4.5:

```
MariaDB [labtask3]>  SELECT EMP_NUM,ATTRACT_NO,AVG(HOURS_PER_ATTRACT)
    -> FROM HOURS
    -> GROUP BY EMP_NUM
    -> HAVING AVG(HOURS_PER_ATTRACT)>=5;
+---------+------------+------------------------+
| EMP_NUM | ATTRACT_NO | AVG(HOURS_PER_ATTRACT) |
+---------+------------+------------------------+
|     100 |      10034 |                 6.0000 |
|     101 |      10034 |                 6.0000 |
|     104 |      30011 |                 6.0000 |
+---------+------------+------------------------+
3 rows in set (0.001 sec)
```

E4.6:

```
77 rows in set (0.001 sec)
```

Answer: 77 rows.

E4.7:

```
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual th
MariaDB [labtask3]> SELECT EMP_FNAME,EMP_LNAME,ATTRACT_NO,DATE_WORKED
    -> from EMPLOYEE INNER JOIN HOURS
    -> WHERE EMPLOYEE.EMP_NUM=HOURS.EMP_NUM;
+------------+------------+------------+------------+
| EMP_FNAME  | EMP_LNAME  | ATTRACT_NO | DATE_WORKED |
+------------+------------+------------+------------+
| Emma       | Calderdale |      10034 | 2007-05-18 |
| Emma       | Calderdale |      10034 | 2007-05-20 |
| Marshel    | Ricardo    |      10034 | 2007-05-18 |
| Arif       | Arshad     |      30012 | 2007-05-23 |
| Arif       | Arshad     |      30044 | 2007-05-21 |
| Arif       | Arshad     |      30044 | 2007-05-22 |
| Enrica     | Denver     |      30011 | 2007-05-21 |
| Enrica     | Denver     |      30012 | 2007-05-22 |
| Mirrelle   | Namowa     |      10078 | 2007-05-18 |
| Mirrelle   | Namowa     |      10098 | 2007-05-18 |
| Mirrelle   | Namowa     |      10098 | 2007-05-19 |
+------------+------------+------------+------------+
11 rows in set (0.001 sec)
```

E4.8:

```
MariaDB [labtask3]> SELECT EMP_FNAME, EMP_LNAME, ATTRACT_NO, ATTRACT_NAME FROM EMPLOYEE JOIN HOURS USING (EMP_NUM) JOIN ATTRACTION USING(ATTRACT_NO);
+-----------+-----------+------------+--------------+
| EMP_FNAME | EMP_LNAME | ATTRACT_NO | ATTRACT_NAME |
+-----------+-----------+------------+--------------+
| Emma      | Calderdale |     10034 | ThunderCoaster |
| Emma      | Calderdale |     10034 | ThunderCoaster |
| Marshel   | Ricardo    |     10034 | ThunderCoaster |
| Arif      | Arshad     |     30012 | Pirates      |
| Arif      | Arshad     |     30044 | UnderSeaWord |
| Arif      | Arshad     |     30044 | UnderSeaWord |
| Enrica    | Denver     |     30011 | BlackHole2   |
| Enrica    | Denver     |     30012 | Pirates      |
| Mirrelle  | Namowa     |     10078 | Ant-Trap     |
| Mirrelle  | Namowa     |     10098 | Carnival     |
| Mirrelle  | Namowa     |     10098 | Carnival     |
+-----------+-----------+------------+--------------+
11 rows in set (0.001 sec)
```

E4.9:

SELECT PARK_NAME ,PARK_COUNTRY, SUM(LINE_PRICE)

FROM THEMEPARK JOIN SALES USING (PARK_CODE) JOIN SALES_LINE USING(TRANSACTION_NO)

 WHERE PARK_CODE LIKE 'UK%' OR PARK_CODE LIKE 'FR%' GROUP BY PARK_NAME;

```
MariaDB [labtask3]> SELECT PARK_NAME ,PARK_COUNTRY, SUM(LINE_PRICE) FROM THEMEPARK JOIN SALES USING (PARK_CODE) JOIN SALES_LINE USING(TRANSACTION_NO) WHERE PARK_CODE LIKE 'UK%' OR PARK_CODE LIKE 'F
R%' GROUP BY PARK_NAME;
+-------------+--------------+----------------+
| PARK_NAME   | PARK_COUNTRY | SUM(LINE_PRICE) |
+-------------+--------------+----------------+
| FairyLand   | FR           |         401.86 |
| PleasureLand | UK          |         851.00 |
+-------------+--------------+----------------+
2 rows in set (0.001 sec)
```

E4.10:

```
MariaDB [labtask3]> select sale_date, line_qty, line_price from sales join sales_line using (transaction_no) where sale_date = '2007-05-18';
+------------+----------+------------+
| sale_date  | line_qty | line_price |
+------------+----------+------------+
| 2007-05-18 |        2 |      69.98 |
| 2007-05-18 |        1 |      14.99 |
| 2007-05-18 |        2 |      69.98 |
| 2007-05-18 |        2 |      41.98 |
| 2007-05-18 |        1 |      14.99 |
| 2007-05-18 |        1 |      14.99 |
| 2007-05-18 |        1 |      34.99 |
| 2007-05-18 |        4 |     139.96 |
| 2007-05-18 |        4 |     168.40 |
| 2007-05-18 |        1 |      22.50 |
| 2007-05-18 |        2 |      21.98 |
| 2007-05-18 |        2 |      84.20 |
| 2007-05-18 |        2 |      21.98 |
| 2007-05-18 |        2 |      84.20 |
| 2007-05-18 |        1 |      22.50 |
| 2007-05-18 |        2 |      21.98 |
| 2007-05-18 |        2 |      21.98 |
| 2007-05-18 |        2 |      84.20 |
| 2007-05-18 |        4 |     168.40 |
| 2007-05-18 |        1 |      22.50 |
| 2007-05-18 |        2 |      21.98 |
| 2007-05-18 |        2 |      84.20 |
| 2007-05-18 |        2 |      57.34 |
| 2007-05-18 |        2 |      37.12 |
| 2007-05-18 |        2 |      57.34 |
| 2007-05-18 |        2 |      37.12 |
| 2007-05-18 |        1 |      18.56 |
| 2007-05-18 |        1 |      12.12 |
| 2007-05-18 |        4 |     114.68 |
| 2007-05-18 |        2 |      57.34 |
| 2007-05-18 |        2 |      37.12 |
+------------+----------+------------+
31 rows in set (0.001 sec)
```