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Database Lab Task 3

Task 3.1 Suppose the owners of all the theme parks wanted to compare the current ticket prices, with an increase in the price of each ticket by 10%. To generate this query type:

```
MariaDB [THEME_PARK]> SELECT PARK_CODE,TICKET_TYPE,TICKET_NO,TICKET_PRICE,TICKET_PRICE+ROUND((TICKET_PRICE*0.1),2) AS "PRIC
E INCREASE"  FROM TICKET;
+-----------+-------------+-----------+--------------+----------------+
| PARK_CODE | TICKET_TYPE | TICKET_NO | TICKET_PRICE | PRICE INCREASE |
+-----------+-------------+-----------+--------------+----------------+
| SP4533    | Adult       |     11001 |        24.99 |          27.49 |
| SP4533    | Child       |     11002 |        14.99 |          16.49 |
| SP4533    | Senior      |     11003 |        10.99 |          12.09 |
| FR1001    | Child       |     13001 |        18.99 |          20.89 |
| FR1001    | Adult       |     13002 |        34.99 |          38.49 |
| FR1001    | Senior      |     13003 |        20.99 |          23.09 |
| ZA1342    | Child       |     67832 |        18.56 |          20.42 |
| ZA1342    | Adult       |     67833 |        28.67 |          31.54 |
| ZA1342    | Senior      |     67855 |        12.12 |          13.33 |
| UK3452    | Child       |     88567 |        22.50 |          24.75 |
| UK3452    | Adult       |     88568 |        42.10 |          46.31 |
| UK3452    | Senior      |     89720 |        10.99 |          12.09 |
+-----------+-------------+-----------+--------------+----------------+
12 rows in set (0.000 sec)
```

Task 3.2 Type in and execute the query and test out the greater than operator. Do you get the same results has shown in Figure 20?

```
MariaDB [THEME_PARK]> SELECT * FROM TICKET WHERE TICKET_PRICE > 20;
+-----------+--------------+-------------+-----------+
| TICKET_NO | TICKET_PRICE | TICKET_TYPE | PARK_CODE |
+-----------+--------------+-------------+-----------+
|     11001 |        24.99 | Adult       | SP4533    |
|     13002 |        34.99 | Adult       | FR1001    |
|     13003 |        20.99 | Senior      | FR1001    |
|     67833 |        28.67 | Adult       | ZA1342    |
|     88567 |        22.50 | Child       | UK3452    |
|     88568 |        42.10 | Adult       | UK3452    |
+-----------+--------------+-------------+-----------+
6 rows in set (0.000 sec)
```

Task 3.3 Modify the query you have just executed to display tickets that are less than €30.00.

```
MariaDB [THEME_PARK]> SELECT * FROM TICKET WHERE TICKET_PRICE < 30.00;
+-----------+--------------+-------------+-----------+
| TICKET_NO | TICKET_PRICE | TICKET_TYPE | PARK_CODE |
+-----------+--------------+-------------+-----------+
|     11001 |        24.99 | Adult       | SP4533    |
|     11002 |        14.99 | Child       | SP4533    |
|     11003 |        10.99 | Senior      | SP4533    |
|     13001 |        18.99 | Child       | FR1001    |
|     13003 |        20.99 | Senior      | FR1001    |
|     67832 |        18.56 | Child       | ZA1342    |
|     67833 |        28.67 | Adult       | ZA1342    |
|     67855 |        12.12 | Senior      | ZA1342    |
|     88567 |        22.50 | Child       | UK3452    |
|     89720 |        10.99 | Senior      | UK3452    |
+-----------+--------------+-------------+-----------+
10 rows in set (0.000 sec)
```

Task 3.4 Execute the following query which produces a list of all rows in which the PARK_CODE is alphabetically less than UK2262. (Because the ASCII code value for the letter B is greater than the value of the letter A, it follows that A is less than B.)

```
MariaDB [THEME_PARK]> SELECT PARK_CODE,PARK_NAME,PARK_COUNTRY FROM THEMEPARK WHERE PARK_CODE < 'UK2262';
+-----------+--------------+--------------+
| PARK_CODE | PARK_NAME    | PARK_COUNTRY |
+-----------+--------------+--------------+
| FR1001    | FairyLand    | FR           |
| NL1202    | Efling       | NL           |
| SP4533    | AdventurePort | SP           |
| SW2323    | Labyrinthe   | SW           |
+-----------+--------------+--------------+
4 rows in set (0.000 sec)
```

Therefore, the output will be generated as shown in Figure 21.

Task 3.5 Write a query which displays the employee number, attraction no, the hours worked per attraction and the date worked where the hours worked per attraction is between 5 and 10. Hint you will need to select data from the HOURS table. The output for the query is shown in Figure 23.

```
MariaDB [THEME_PARK]> SELECT EMP_NUM, ATTRACT_NO, HOURS_PER_ATTRACT FROM HOURS WHERE HOURS_PER_ATTRACT BETWEEN 5 AND 10;
+---------+------------+-------------------+
| EMP_NUM | ATTRACT_NO | HOURS_PER_ATTRACT |
+---------+------------+-------------------+
|     100 |      10034 |                 6 |
|     100 |      10034 |                 6 |
|     101 |      10034 |                 6 |
|     102 |      30044 |                 6 |
|     104 |      30011 |                 6 |
|     104 |      30012 |                 6 |
|     105 |      10098 |                 6 |
+---------+------------+-------------------+
7 rows in set (0.000 sec)
```

Task 3.6 Write a query to display all tickets that are of type Senior or Child. Hint: Use the TICKET table. The output you should see is shown in Figure 25.

```
MariaDB [THEME_PARK]> SELECT * FROM TICKET WHERE TICKET_TYPE IN ('Child','Senior');
+-----------+--------------+-------------+-----------+
| TICKET_NO | TICKET_PRICE | TICKET_TYPE | PARK_CODE |
+-----------+--------------+-------------+-----------+
|     11002 |        14.99 | Child       | SP4533    |
|     11003 |        10.99 | Senior      | SP4533    |
|     13001 |        18.99 | Child       | FR1001    |
|     13003 |        20.99 | Senior      | FR1001    |
|     67832 |        18.56 | Child       | ZA1342    |
|     67855 |        12.12 | Senior      | ZA1342    |
|     88567 |        22.50 | Child       | UK3452    |
|     89720 |        10.99 | Senior      | UK3452    |
+-----------+--------------+-------------+-----------+
8 rows in set (0.000 sec)
```

Task 3.7 *Enter the following query which finds all EMPLOYEE rows whose first names begin with the letter A.*

```
ERROR 1054 (42S22): Unknown column 'EMPLNAME' in 'field list'
MariaDB [THEME_PARK]> SELECT EMP_LNAME,EMP_FNAME,EMP_NUM FROM EMPLOYEE WHERE EMP_FNAME LIKE 'A%';
+-----------+-----------+---------+
| EMP_LNAME | EMP_FNAME | EMP_NUM |
+-----------+-----------+---------+
| Arshad    | Arif      |     102 |
| Roberts   | Anne      |     103 |
+-----------+-----------+---------+
2 rows in set (0.000 sec)
```

Task 3.8 *Write a query which finds all Theme Parks that have a name ending in 'Land'. The output you should see is shown in Figure 27.*

```
MariaDB [THEME_PARK]> SELECT * FROM THEMEPARK WHERE PARK_NAME LIKE '%Land';
+-----------+--------------+-----------+--------------+
| PARK_CODE | PARK_NAME    | PARK_CITY | PARK_COUNTRY |
+-----------+--------------+-----------+--------------+
| FR1001    | FairyLand    | PARIS     | FR           |
| UK2622    | MiniLand     | WINDSOR   | UK           |
| UK3452    | PleasureLand | STOKE     | UK           |
+-----------+--------------+-----------+--------------+
3 rows in set (0.001 sec)
```

Task 3.9 *Enter the query above and check you results with those shown in Figure 29.*

```
Database changed
MariaDB [THEME_PARK]> SELECT EMP_NUM,ATTRACT_NO FROM HOURS WHERE HOURS_PER_ATTRACT > 3 AND DATE_WORKED > '2007-05-18';
+---------+------------+
| EMP_NUM | ATTRACT_NO |
+---------+------------+
|     100 |      10034 |
|     102 |      30044 |
|     104 |      30011 |
|     104 |      30012 |
|     105 |      10098 |
+---------+------------+
5 rows in set (0.004 sec)

MariaDB [THEME_PARK]>
```

Task 3.10 *Write a query which displays the details of all attractions which are suitable for children aged 10 or under and have a capacity of less than 100. You should not display any information for attractions which currently have no name. Your output should correspond to that shown in Figure 30.*

```
5 rows in set (0.004 sec)

MariaDB [THEME_PARK]> SELECT * FROM ATTRACTION WHERE ATTRACT_AGE <= 10 AND ATTRACT_CAPACITY < 100 AND ATTRACT_NAME IS NOT NULL;
+------------+----------------+-------------+-----------------+-----------+
| ATTRACT_NO | ATTRACT_NAME   | ATTRACT_AGE | ATTRACT_CAPACITY | PARK_CODE |
+------------+----------------+-------------+-----------------+-----------+
|      10056 | SpinningTeacups |           4 |              62 | FR1001    |
|      30012 | Pirates        |          10 |              42 | UK3452    |
|      30044 | UnderSeaWord   |           4 |              80 | UK3452    |
|      98764 | GoldRush       |           5 |              80 | ZA1342    |
+------------+----------------+-------------+-----------------+-----------+
4 rows in set (0.001 sec)

MariaDB [THEME_PARK]>
```

Task 3.11 *Test the following query and check your output with that shown in Figure 32. Can you work out what this query is doing?*

```
MariaDB [THEME_PARK]> SELECT * FROM ATTRACTION WHERE (PARK_CODE LIKE 'FR%' AND ATTRACT_CAPACITY < 50) OR (ATTRACT_CAPACITY > 100);
+------------+---------------+-------------+-----------------+-----------+
| ATTRACT_NO | ATTRACT_NAME  | ATTRACT_AGE | ATTRACT_CAPACITY | PARK_CODE |
+------------+---------------+-------------+-----------------+-----------+
|      10034 | ThunderCoaster |          11 |              34 | FR1001    |
|      10067 | FlightToStars  |          11 |              24 | FR1001    |
|      10078 | Ant-Trap       |          23 |              30 | FR1001    |
|      10098 | Carnival       |           3 |             120 | FR1001    |
|      20056 | 3D-Lego_Show   |           3 |             200 | UK3452    |
+------------+---------------+-------------+-----------------+-----------+
5 rows in set (0.001 sec)
```

The query selects attractions where either the park code starts with 'FR' and the capacity is less than 50, or the capacity is greater than 100.

Task 3.12 *Enter the following query which contains an example of a cascading order sequence, by ordering the rows in the employee table by the employee's last then first names.*

```
MariaDB [THEME_PARK]> SELECT * FROM EMPLOYEE ORDER BY EMP_LNAME, EMP_FNAME;
+---------+-----------+------------+-----------+------------+---------------+---------------+-----------+-----------+
| EMP_NUM | EMP_TITLE | EMP_LNAME  | EMP_FNAME | EMP_DOB    | EMP_HIRE_DATE | EMP_AREA_CODE | EMP_PHONE | PARK_CODE |
+---------+-----------+------------+-----------+------------+---------------+---------------+-----------+-----------+
|     102 | Mr        | Arshad     | Arif      | 1969-11-14 | 1990-12-20    | 7253          | 675-8993  | FR1001    |
|     100 | Ms        | Calderdale | Emma      | 1972-06-15 | 1992-03-15    | 0181          | 324-9134  | FR1001    |
|     104 | Mr        | Denver     | Enrica    | 1980-11-08 | 2001-10-20    | 7253          | 504-4434  | ZA1342    |
|     105 | Ms        | Namowa     | Mirrelle  | 1990-03-14 | 2006-11-08    | 0181          | 890-3243  | FR1001    |
|     101 | Ms        | Ricardo    | Marshel   | 1978-03-19 | 1996-04-25    | 0181          | 324-4472  | UK3452    |
|     103 | Ms        | Roberts    | Anne      | 1974-10-16 | 1994-08-16    | 0181          | 898-3456  | UK3452    |
|     106 | Mrs       | Smith      | Gemma     | 1968-02-12 | 1989-01-05    | 0181          | 324-7845  | ZA1342    |
+---------+-----------+------------+-----------+------------+---------------+---------------+-----------+-----------+
7 rows in set (0.001 sec)
```

Task 3.13 *Enter the following query and check your output against the results shown in Figure 35. Describe in your own words what this query is actually doing.*

```
MariaDB [THEME_PARK]> SELECT * FROM EMPLOYEE ORDER BY EMP_LNAME,EMP_FNAME;
+---------+-----------+------------+-----------+------------+---------------+---------------+-----------+-----------+
| EMP_NUM | EMP_TITLE | EMP_LNAME  | EMP_FNAME | EMP_DOB    | EMP_HIRE_DATE | EMP_AREA_CODE | EMP_PHONE | PARK_CODE |
+---------+-----------+------------+-----------+------------+---------------+---------------+-----------+-----------+
|     102 | Mr        | Arshad     | Arif      | 1969-11-14 | 1990-12-20    | 7253          | 675-8993  | FR1001    |
|     100 | Ms        | Calderdale | Emma      | 1972-06-15 | 1992-03-15    | 0181          | 324-9134  | FR1001    |
|     104 | Mr        | Denver     | Enrica    | 1980-11-08 | 2001-10-20    | 7253          | 504-4434  | ZA1342    |
|     105 | Ms        | Namowa     | Mirrelle  | 1990-03-14 | 2006-11-08    | 0181          | 890-3243  | FR1001    |
|     101 | Ms        | Ricardo    | Marshel   | 1978-03-19 | 1996-04-25    | 0181          | 324-4472  | UK3452    |
|     103 | Ms        | Roberts    | Anne      | 1974-10-16 | 1994-08-16    | 0181          | 898-3456  | UK3452    |
|     106 | Mrs       | Smith      | Gemma     | 1968-02-12 | 1989-01-05    | 0181          | 324-7845  | ZA1342    |
+---------+-----------+------------+-----------+------------+---------------+---------------+-----------+-----------+
7 rows in set (0.001 sec)
```

The rows are sorted first by EMP_LNAME (last name) and then by EMP_FNAME (first name) in ascending order.

E3.1 Write a query to display all Theme Parks except those in the UK.

```
MariaDB [THEME_PARK]> SELECT * FROM THEMEPARK WHERE NOT (PARK_COUNTRY = 'UK');
+-----------+---------------+--------------+--------------+
| PARK_CODE | PARK_NAME     | PARK_CITY    | PARK_COUNTRY |
+-----------+---------------+--------------+--------------+
| FR1001    | FairyLand     | PARIS        | FR           |
| NL1202    | Efling        | NOORD        | NL           |
| SP4533    | AdventurePort | BARCELONA    | SP           |
| SW2323    | Labyrinthe    | LAUSANNE     | SW           |
| ZA1342    | GoldTown      | JOHANNESBURG | ZA           |
+-----------+---------------+--------------+--------------+
5 rows in set (0.001 sec)
```

E3.2 Write a query to display all the sales that occurred on the 18th May 2007.

```
MariaDB [THEME_PARK]> SELECT * FROM SALES WHERE SALE_DATE = '2007-05-18';
+----------------+-----------+------------+
| TRANSACTION_NO | PARK_CODE | SALE_DATE  |
+----------------+-----------+------------+
|          12781 | FR1001    | 2007-05-18 |
|          12782 | FR1001    | 2007-05-18 |
|          12783 | FR1001    | 2007-05-18 |
|          12784 | FR1001    | 2007-05-18 |
|          12785 | FR1001    | 2007-05-18 |
|          12786 | FR1001    | 2007-05-18 |
|          34534 | UK3452    | 2007-05-18 |
|          34535 | UK3452    | 2007-05-18 |
|          34536 | UK3452    | 2007-05-18 |
|          34537 | UK3452    | 2007-05-18 |
|          34538 | UK3452    | 2007-05-18 |
|          34539 | UK3452    | 2007-05-18 |
|          34540 | UK3452    | 2007-05-18 |
|          34541 | UK3452    | 2007-05-18 |
|          67589 | ZA1342    | 2007-05-18 |
|          67590 | ZA1342    | 2007-05-18 |
|          67591 | ZA1342    | 2007-05-18 |
|          67592 | ZA1342    | 2007-05-18 |
|          67593 | ZA1342    | 2007-05-18 |
+----------------+-----------+------------+
19 rows in set (0.001 sec)
```

E3.3 Write a query to display the ticket prices between €20 AND €30.

```
MariaDB [THEME_PARK]> SELECT * FROM TICKET WHERE TICKET_PRICE BETWEEN 20.00 AND 30.00;
+-----------+--------------+-------------+-----------+
| TICKET_NO | TICKET_PRICE | TICKET_TYPE | PARK_CODE |
+-----------+--------------+-------------+-----------+
|     11001 |        24.99 | Adult       | SP4533    |
|     13003 |        20.99 | Senior      | FR1001    |
|     67833 |        28.67 | Adult       | ZA1342    |
|     88567 |        22.50 | Child       | UK3452    |
+-----------+--------------+-------------+-----------+
4 rows in set (0.001 sec)

MariaDB [THEME_PARK]> SELECT TICKET_PRICE FROM TICKET WHERE TICKET_PRICE BETWEEN 20.00 AND 30.00;
+--------------+
| TICKET_PRICE |
+--------------+
|        24.99 |
|        20.99 |
|        28.67 |
|        22.50 |
+--------------+
4 rows in set (0.001 sec)
```

E3.4 Display all attractions that have a capacity of more than 60 at the Theme Park FR1001.

```
MariaDB [THEME_PARK]> SELECT * FROM ATTRACTION WHERE PARK_CODE ='FR1001' AND ATTRACT_CAPACITY > 60;
+------------+-----------------+-------------+-------------------+-----------+
| ATTRACT_NO | ATTRACT_NAME    | ATTRACT_AGE | ATTRACT_CAPACITY | PARK_CODE |
+------------+-----------------+-------------+-------------------+-----------+
|      10056 | SpinningTeacups |           4 |                62 | FR1001    |
|      10098 | Carnival        |           3 |               120 | FR1001    |
+------------+-----------------+-------------+-------------------+-----------+
2 rows in set (0.001 sec)
```

E3.5 Write a query to display the hourly rate for each attraction where an employee had worked, along with the hourly rate increased by 20%. Your query should only Display the ATTRACT_NO, HOUR_RATE and the HOUR_RATE with the 20% Increase.

```
MariaDB [THEME_PARK]> SELECT ATTRACT_NO,HOUR_RATE,HOUR_RATE+ROUND((HOUR_RATE*0.2),2) AS "HOURS INCREASE" FROM HOURS;
+------------+-----------+----------------+
| ATTRACT_NO | HOUR_RATE | HOURS INCREASE |
+------------+-----------+----------------+
|      10034 |      6.50 |           7.80 |
|      10034 |      6.50 |           7.80 |
|      10034 |      6.50 |           7.80 |
|      30012 |      5.99 |           7.19 |
|      30044 |      5.99 |           7.19 |
|      30044 |      5.99 |           7.19 |
|      30011 |      7.20 |           8.64 |
|      30012 |      7.20 |           8.64 |
|      10078 |      8.50 |          10.20 |
|      10098 |      8.50 |          10.20 |
|      10098 |      8.50 |          10.20 |
+------------+-----------+----------------+
11 rows in set (0.001 sec)
```

E.3.6 Elaborate Difference (IN vs BETWEEN) operators with examples.

The between operator is use to select the values between a specified range while in is used for matching against a list of specific values.

EXAMPLE:

```
MariaDB [THEME_PARK]> SELECT * FROM EMPLOYEE WHERE EMP_NUM IN (101,104,106);
+---------+-----------+-----------+-----------+------------+---------------+---------------+-----------+-----------+
| EMP_NUM | EMP_TITLE | EMP_LNAME | EMP_FNAME | EMP_DOB    | EMP_HIRE_DATE | EMP_AREA_CODE | EMP_PHONE | PARK_CODE |
+---------+-----------+-----------+-----------+------------+---------------+---------------+-----------+-----------+
|     101 | Ms        | Ricardo   | Marshel   | 1978-03-19 | 1996-04-25    | 0181          | 324-4472  | UK3452    |
|     104 | Mr        | Denver    | Enrica    | 1980-11-08 | 2001-10-20    | 7253          | 504-4434  | ZA1342    |
|     106 | Mrs       | Smith     | Gemma     | 1968-02-12 | 1989-01-05    | 0181          | 324-7845  | ZA1342    |
+---------+-----------+-----------+-----------+------------+---------------+---------------+-----------+-----------+
3 rows in set (0.001 sec)
```

It will select all columns (*) from the EMPLOYEE table where the EMP_NUM column matches any of the specified values (101, 104, or 106).

```
MariaDB [THEME_PARK]> SELECT * FROM EMPLOYEE WHERE EMP_NUM BETWEEN 101 AND 106;
+---------+-----------+-----------+-----------+------------+---------------+---------------+-----------+-----------+
| EMP_NUM | EMP_TITLE | EMP_LNAME | EMP_FNAME | EMP_DOB    | EMP_HIRE_DATE | EMP_AREA_CODE | EMP_PHONE | PARK_CODE |
+---------+-----------+-----------+-----------+------------+---------------+---------------+-----------+-----------+
|     101 | Ms        | Ricardo   | Marshel   | 1978-03-19 | 1996-04-25    | 0181          | 324-4472  | UK3452    |
|     102 | Mr        | Arshad    | Arif      | 1969-11-14 | 1990-12-20    | 7253          | 675-8993  | FR1001    |
|     103 | Ms        | Roberts   | Anne      | 1974-10-16 | 1994-08-16    | 0181          | 898-3456  | UK3452    |
|     104 | Mr        | Denver    | Enrica    | 1980-11-08 | 2001-10-20    | 7253          | 504-4434  | ZA1342    |
|     105 | Ms        | Namowa    | Mirrelle  | 1990-03-14 | 2006-11-08    | 0181          | 890-3243  | FR1001    |
|     106 | Mrs       | Smith     | Gemma     | 1968-02-12 | 1989-01-05    | 0181          | 324-7845  | ZA1342    |
+---------+-----------+-----------+-----------+------------+---------------+---------------+-----------+-----------+
6 rows in set (0.001 sec)
```

It will select all columns (*) from the EMPLOYEE table where the EMP_NUM column falls within the range of 101 to 106.

E.3.7 Write a query to display all unique employees that exist in the HOURS table.

```
MariaDB [THEME_PARK]> SELECT DISTINCT(EMP_NUM) FROM HOURS;
+---------+
| EMP_NUM |
+---------+
|     100 |
|     101 |
|     102 |
|     104 |
|     105 |
+---------+
5 rows in set (0.001 sec)
```

E.3.8 Display all information from the SALES table in descending order of the sale date.

```
MariaDB [THEME_PARK]> SELECT * FROM SALES ORDER BY SALE_DATE DESC;
+----------------+-----------+------------+
| TRANSACTION_NO | PARK_CODE | SALE_DATE  |
+----------------+-----------+------------+
|          12781 | FR1001    | 2007-05-18 |
|          67592 | ZA1342    | 2007-05-18 |
|          67591 | ZA1342    | 2007-05-18 |
|          67590 | ZA1342    | 2007-05-18 |
|          67589 | ZA1342    | 2007-05-18 |
|          34541 | UK3452    | 2007-05-18 |
|          34540 | UK3452    | 2007-05-18 |
|          34539 | UK3452    | 2007-05-18 |
|          34538 | UK3452    | 2007-05-18 |
|          34537 | UK3452    | 2007-05-18 |
|          34536 | UK3452    | 2007-05-18 |
|          34535 | UK3452    | 2007-05-18 |
|          34534 | UK3452    | 2007-05-18 |
|          12786 | FR1001    | 2007-05-18 |
|          12785 | FR1001    | 2007-05-18 |
|          12784 | FR1001    | 2007-05-18 |
|          12783 | FR1001    | 2007-05-18 |
|          12782 | FR1001    | 2007-05-18 |
|          67593 | ZA1342    | 2007-05-18 |
+----------------+-----------+------------+
19 rows in set (0.001 sec)
```

E.3.9 Write a query to show the transaction numbers and lineprices (in the SALES_LINE table) that are greater than €50.

```
MariaDB [THEME_PARK]> SELECT TRANSACTION_NO, LINE_PRICE FROM SALES_LINE WHERE TRANSACTION_NO > 50 AND LINE_PRICE > 50;
+----------------+------------+
| TRANSACTION_NO | LINE_PRICE |
+----------------+------------+
|          12781 |      69.98 |
|          12782 |      69.98 |
|          12785 |     139.96 |
|          34534 |     168.40 |
|          34535 |      84.20 |
|          34537 |      84.20 |
|          34539 |      84.20 |
|          34540 |     168.40 |
|          34541 |      84.20 |
|          67589 |      57.34 |
|          67590 |      57.34 |
|          67592 |     114.68 |
|          67593 |      57.34 |
+----------------+------------+
13 rows in set (0.000 sec)
```

E.3.10 Write a query to display only the last two Employee Record (EMP_NUM,EMP_FNAME) in descending order.

```
MariaDB [THEME_PARK]> SELECT EMP_FNAME,EMP_NUM FROM EMPLOYEE ORDER BY EMP_NUM DESC LIMIT 2;
+-----------+---------+
| EMP_FNAME | EMP_NUM |
+-----------+---------+
| Gemma     |     106 |
| Mirrelle  |     105 |
+-----------+---------+
2 rows in set (0.001 sec)
```

Bonus Task

1. Display the employee numbers of all employees and the total number of hours they have worked Check your result with those shown in below figure 37.

```
MariaDB [THEME_PARK]> SELECT DISTINCT h1.EMP_NUM,
    ->        (SELECT SUM(h2.HOURS_PER_ATTRACT)
    ->         FROM HOURS h2
    ->         WHERE h1.EMP_NUM = h2.EMP_NUM) AS TOTAL_WORK_HOURS
    -> FROM HOURS h1;
+---------+-------------------+
| EMP_NUM | TOTAL_WORK_HOURS  |
+---------+-------------------+
|     100 |                12 |
|     101 |                 6 |
|     102 |                12 |
|     104 |                12 |
|     105 |                12 |
+---------+-------------------+
5 rows in set (0.005 sec)
```

2. Write a query that displays the employees first and last name (EMP_FNAME and EMP_LNAME), the attraction number(ATTRACT_NO) and the date worked.

```
MariaDB [THEME_PARK]> SELECT E.EMP_FNAME, E.EMP_LNAME,H.ATTRACT_NO,H.DATE_WORKED
 FROM EMPLOYEE E, HOURS H WHERE E.EMP_NUM = H.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 (0.000 sec)
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