

A dark blue vertical bar runs along the left edge of the page. A blue arrow-shaped banner points to the right from this bar, containing the text 'Section 4B'. In the bottom-left corner, several thin, curved lines in dark blue and light grey sweep upwards and to the right.

Section 4B

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EXAMPLE_1

```
mysql> select distinct emp_num, emp_lname, emp_fname, park_name from employee na
tural join hours natural join attraction natural join themepark where park_code
in (select themepark.park_code from themepark where park_name like "%fairy%");
+-----+-----+-----+-----+
| emp_num | emp_lname | emp_fname | park_name |
+-----+-----+-----+-----+
|      100 | Calderdale | Emma      | FairyLand |
|      105 | Namowa     | Mirrelle  | FairyLand |
+-----+-----+-----+-----+
2 rows in set (0.00 sec)
```

EXAMPLE_2

```
mysql> select distinct emp_fname, emp_lname, sum(hours_per_attract) from employee
natural join hours where date_worked like "2007-05-%" group by emp_fname, emp_lna
me, date_worked having sum(hours_per_attract) > (select avg(hours_per_attract) fr
om hours);
+-----+-----+-----+
| emp_fname | emp_lname | sum(hours_per_attract) |
+-----+-----+-----+
| Arif      | Arshad    | 6 |
| Emma      | Calderdale | 6 |
| Enrica     | Denver    | 6 |
| Marshel    | Ricardo   | 6 |
| Mirrelle   | Namowa     | 6 |
+-----+-----+-----+
5 rows in set, 1 warning (0.00 sec)
```

FIGURE 69

```
MariaDB [themepark_online]> SELECT TICKET_NO, TICKET_TYPE, TICKET_PRICE
-> FROM TICKET
-> WHERE TICKET_PRICE >= (SELECT AVG(TICKET_PRICE) FROM TICKET);
+-----+-----+-----+
| TICKET_NO | TICKET_TYPE | TICKET_PRICE |
+-----+-----+-----+
|      11001 | Adult      |      24.99 |
|      13002 | Adult      |      34.99 |
|      67833 | Adult      |      28.67 |
|      88567 | Child      |      22.50 |
|      88568 | Adult      |      42.10 |
+-----+-----+-----+
5 rows in set (0.437 sec)
```

(TASK_1)Figure 71.

```

Database changed
MariaDB [themepark_online]> SELECT DISTINCT EMP_NUM, EMP_LNAME, EMP_FNAME, PARK_NAME
-> FROM EMPLOYEE NATURAL JOIN HOURS NATURAL JOIN
-> ATTRACTION NATURAL JOIN THEMEPARK
-> WHERE PARK_CODE IN (SELECT THEMEPARK.PARK_CODE FROM
-> THEMEPARK WHERE PARK_NAME LIKE "%Fairy%");
+-----+-----+-----+-----+
| EMP_NUM | EMP_LNAME | EMP_FNAME | PARK_NAME |
+-----+-----+-----+-----+
|      100 | Calderdale | Emma      | FairyLand |
|      105 | Namowa    | Mirrelle  | FairyLand |
+-----+-----+-----+-----+
2 rows in set (0.224 sec)

```

Figure 72.(TASK_2)

```

MariaDB [themepark_online]> SELECT PARK_CODE, SUM(LINE_QTY)
-> FROM SALES_LINE NATURAL JOIN TICKET
-> GROUP BY PARK_CODE
-> HAVING SUM(LINE_QTY) > (SELECT AVG(LINE_QTY) FROM SALES_LINE);
+-----+-----+
| PARK_CODE | SUM(LINE_QTY) |
+-----+-----+
| FR1001    | 14             |
| UK3452    | 29             |
| ZA1342    | 18             |
+-----+-----+
3 rows in set (0.107 sec)

```

Figure 74(TASK_3)

```

MariaDB [themepark_online]> SELECT TICKET_NO, PARK_CODE, TICKET_PRICE
-> FROM TICKET
-> WHERE TICKET_PRICE > ALL (SELECT TICKET_PRICE FROM TICKET
-> WHERE TICKET_TYPE = "CHILD");
+-----+-----+-----+
| TICKET_NO | PARK_CODE | TICKET_PRICE |
+-----+-----+-----+
|      11001 | SP4533    | 24.99        |
|      13002 | FR1001    | 34.99        |
|      67833 | ZA1342    | 28.67        |
|      88568 | UK3452    | 42.10        |
+-----+-----+-----+
4 rows in set (0.290 sec)

```

Figure 75.(TASK_4)

```

MariaDB [themepark_online]> SELECT TICKET_NO, TICKET_PRICE,
-> (SELECT AVG(TICKET_PRICE) FROM TICKET) AS AVGPRICE,
-> TICKET_PRICE - (SELECT AVG(TICKET_PRICE) FROM TICKET) AS DIFF
-> FROM TICKET;

```

TICKET_NO	TICKET_PRICE	AVGPRICE	DIFF
11001	24.99	21.740000	3.250000
11002	14.99	21.740000	-6.750000
11003	10.99	21.740000	-10.750000
13001	18.99	21.740000	-2.750000
13002	34.99	21.740000	13.250000
13003	20.99	21.740000	-0.750000
67832	18.56	21.740000	-3.180000
67833	28.67	21.740000	6.930000
67855	12.12	21.740000	-9.620000
88567	22.50	21.740000	0.760000
88568	42.10	21.740000	20.360000
89720	10.99	21.740000	-10.750000

12 rows in set (0.039 sec)

Figure 76(TASK_5)

```

MariaDB [themepark_online]> SELECT TRANSACTION_NO, LINE_NO, LINE_QTY, LINE_PRICE
-> FROM SALES_LINE SL
-> WHERE SL.LINE_QTY > (SELECT AVG(LINE_QTY)
-> FROM SALES_LINE SA
-> WHERE SA. TRANSACTION_NO = SL. TRANSACTION_NO);

```

TRANSACTION_NO	LINE_NO	LINE_QTY	LINE_PRICE
12781	1	2	69.98
12785	3	4	139.96
34534	1	4	168.40
34537	1	2	84.20
34540	1	4	168.40

5 rows in set (0.033 sec)

figure 77.(TASK_6)

```

MariaDB [themepark_online]> SELECT PARK_CODE, PARK_NAME, PARK_COUNTRY
-> FROM THEMEPARK
-> WHERE EXISTS (SELECT PARK_CODE FROM SALES
-> WHERE SALES.PARK_CODE = THEMEPARK.PARK_CODE);
+-----+-----+-----+
| PARK_CODE | PARK_NAME | PARK_COUNTRY |
+-----+-----+-----+
| FR1001    | FairyLand | FR           |
| UK3452    | PleasureLand | UK          |
| ZA1342    | GoldTown  | ZA           |
+-----+-----+-----+
3 rows in set (0.183 sec)

```

E 5.1

```

MariaDB [themepark_online]> select distinct emp_fname,emp_lname from employee natural join hours where hour_rate >(select
t avg(hour_rate) from hours);
+-----+-----+
| emp_fname | emp_lname |
+-----+-----+
| Enrica    | Denver    |
| Mirrelle  | Namowa    |
+-----+-----+
2 rows in set (0.113 sec)

```

E 5.2

```

mysql> SELECT EMP_FNAME, EMP_LNAME, DATE_WORKED, (SELECT AVG(HOURS_PER_ATTRACT)
FROM HOURS) AS AVERAGE, HOURS_PER_ATTRACT - (SELECT AVG(HOURS_PER_ATTRACT) FROM
HOURS) AS DIFFERENCE FROM EMPLOYEE NATURAL JOIN HOURS;
+-----+-----+-----+-----+-----+
| EMP_FNAME | EMP_LNAME | DATE_WORKED | AVERAGE | DIFFERENCE |
+-----+-----+-----+-----+-----+
| Emma      | Calderdale | 2007-05-18 | 4.9091 | 1.0909 |
| Emma      | Calderdale | 2007-05-20 | 4.9091 | 1.0909 |
| Marshel   | Ricardo    | 2007-05-18 | 4.9091 | 1.0909 |
| Arif      | Arshad     | 2007-05-23 | 4.9091 | -1.9091 |
| Arif      | Arshad     | 2007-05-21 | 4.9091 | 1.0909 |
| Arif      | Arshad     | 2007-05-22 | 4.9091 | -1.9091 |
| Enrica    | Denver     | 2007-05-21 | 4.9091 | 1.0909 |
| Enrica    | Denver     | 2007-05-22 | 4.9091 | 1.0909 |
| Mirrelle  | Namowa     | 2007-05-18 | 4.9091 | -1.9091 |
| Mirrelle  | Namowa     | 2007-05-18 | 4.9091 | -1.9091 |
| Mirrelle  | Namowa     | 2007-05-19 | 4.9091 | 1.0909 |
+-----+-----+-----+-----+-----+
11 rows in set (0.00 sec)

```

E 5.3


```

MariaDB [themepark_online]> select park_code, park_name, park_country
-> from themepark
-> where exists (select park_code from sales
-> where sales.park_code =themepark.park_code);
+-----+-----+-----+
| park_code | park_name | park_country |
+-----+-----+-----+
| FR1001    | FairyLand | FR           |
| UK3452    | PleasureLand | UK          |
| ZA1342    | GoldTown   | ZA           |
+-----+-----+-----+
3 rows in set (0.001 sec)

```

E 5.4

```

MariaDB [themepark_online]> select park_code, park_name, park_country from themepark where NOT EXISTS ( select park_code f
rom sales where sales.park_code =themepark.park_code);
+-----+-----+-----+
| park_code | park_name | park_country |
+-----+-----+-----+
| NL1202    | Efling    | NL           |
| SP4533    | AdventurePort | SP          |
| SW2323    | Labyrinthe | SW           |
| UK2622    | MiniLand | UK           |
+-----+-----+-----+
4 rows in set (0.013 sec)

```

E 5.5

```

MariaDB [themepark_online]> select attract_name from attraction where attract_capacity<=(select avg(attract_capacity) from attraction);
+-----+
| attract_name |
+-----+
| ThunderCoaster |
| SpinningTeacups |
| FlightToStars |
| Ant-Trap |
| NULL |
| BlackHole2 |
| Pirates |
+-----+
7 rows in set (0.045 sec)

MariaDB [themepark_online]>

```