

Practical - 4

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AIM:

To write aggregation function-based queries.

QUERIES:

1. List the names and addresses of all passengers whose names start with an initial of 'A' and have surnames of either 'Jain' or 'Diwan'.

```
mysql> SELECT Name, Address
-> FROM passenger
-> WHERE Name like 'A%' AND (Name like '%Jain' OR Name like '%Diwan');
+-----+-----+
| Name      | Address |
+-----+-----+
| Akshat Jain | Gohana |
| Amogh Diwan | Gurgaon |
+-----+-----+
2 rows in set (0.00 sec)
```

2. Assuming Tariffs are recorded excluding VAT, calculate and list Tariffs inclusive of VAT (Hint - There are a number of different ways of calculating Fare prices inclusive of VAT (17.5%). The following are all equivalent and valid arithmetic expressions for calculating VAT inclusive values within the SELECT clause.

- a. $\text{Price} + \text{Price} * .175$
- b. $\text{Price} + \text{Price} * 17.5 / 100$
- c. $\text{Price} * 1.175$

```
mysql> SELECT RouteNo, FareType, Price, Price*1.175
-> FROM tariff;
+-----+-----+-----+-----+
| RouteNo | FareType | Price | Price*1.175 |
+-----+-----+-----+-----+
| 3 | BUR | 117 | 137.475 |
| 3 | SDR | 158 | 185.650 |
| 3 | SDS | 79 | 92.825 |
| 4 | SDR | 162 | 190.350 |
| 4 | SBS | 49 | 57.575 |
| 6 | BUR | 117 | 137.475 |
| 6 | SBS | 42 | 49.350 |
| 6 | KFS | 53 | 62.275 |
| 7 | SDR | 128 | 150.400 |
| 8 | SDS | 74 | 86.950 |
+-----+-----+-----+-----+
10 rows in set (0.00 sec)
```

3. List the average aircraft seating capacity.

```
mysql> SELECT AVG(NoOfSeats) as 'AvgSeats'
-> FROM aircraft;
+-----+
| AvgSeats |
+-----+
| 174.6000 |
+-----+
1 row in set (0.61 sec)
```

4. Count the number of Routes flown by the airline.

```
mysql> SELECT COUNT(*) as 'NoOfRoute'
-> FROM route;
+-----+
| NoOfRoute |
+-----+
| 8 |
+-----+
1 row in set (0.17 sec)
```

5. List the full details of all Airports.

```
mysql> SELECT *
-> FROM Airport;
+-----+-----+-----+-----+-----+
| airport | aname          | checkin                                     | resvtns          | flightinfo |
+-----+-----+-----+-----+-----+
| AMST    | Amsterdam      | South Hall Departures 20 mins before flight | 06 022 2426 20   | 178299     |
| BELF    | Belfast        | Desks 18 and 19, 15 mins before flight      | 023 2325151 08494 | 22888      |
| BIRM    | Birmingham     | Check-in desks 20 mins before flight         | 021 236          | 0121       |
| BRUS    | Brussels       | Sabena check-in desks 30 mins before flight  | 2 511 9030 2     | 7207167    |
| EMID    | East Midlands  | Check-in 15 mins before flight for heavy bags | 0332 810552 0332 | 852614     |
| DUBL    | Dublin         | Check-in 20 mins prior to departure          | 01 423           | 555        |
| EDIN    | Edinburgh      | Gate 1 at least 10 mins before departure    | 031 447          | 1000       |
| GLAS    | Glasgow        | Desks 60-64/Gate 8 20 mins before departure | 041 204          | 2436       |
| HROW    | Heathrow       | Island A/B Terminal-1 20 mins before flight | 081 5895599 081  | 7457321    |
| LBDR    | Leeds/Bradford | Check-in 15 mins before flight for baggage   | 0532             | 451991     |
+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)
```

6. List the distinct Aircraft Types assigned to flights.

```
mysql> SELECT DISTINCT(AircraftType)
-> FROM flight;
+-----+
| AircraftType |
+-----+
| 737          |
| BF6          |
| DC9          |
| HS8          |
| WM2          |
+-----+
```

```
+-----+
5 rows in set (0.07 sec)
```

7. List all Tickets with TicketDate appearing in the left most column.

```
mysql> SELECT TicketDate, TicketNo
-> FROM ticket;
+-----+-----+
| TicketDate | TicketNo |
+-----+-----+
| 2021-02-17 | TN678    |
| 2021-03-14 | TN543    |
| 2021-02-26 | TN623    |
| 2021-03-08 | TN596    |
| 2021-04-22 | TN719    |
| 2021-03-30 | TN590    |
| 2021-02-14 | TN726    |
| 2021-04-18 | TN607    |
| 2021-03-14 | TN568    |
| 2021-04-22 | TN668    |
+-----+-----+
10 rows in set (0.20 sec)
```

8. From amongst all of the different aircraft types find the largest seating capacity. You are not asked to find which particular aircraft type this seating capacity belongs to.

```
mysql> SELECT MAX(NoOfSeats) as 'MaxSeats'
-> FROM aircraft;
+-----+
| MaxSeats |
+-----+
| 300      |
+-----+
1 row in set (0.04 sec)
```

9. Calculate how many different AircraftTypes are allocated to timetabled flights by querying the flights table.

```
mysql> SELECT COUNT(DISTINCT AircraftType) as 'Distinct_AircraftType'
-> FROM flight;
+-----+
| Distinct_AircraftType |
+-----+
| 5                      |
+-----+
1 row in set (0.00 sec)
```

10. Format the query given in query 2 so that the expression price*1.175 is given a result-column name of vat_price.

```
mysql> SELECT RouteNo, FareType, Price, Price*1.175 as vat_price
-> FROM tariff;
```

RouteNo	FareType	Price	vat_price
3	BUR	117	137.475
3	SDR	158	185.650
3	SDS	79	92.825
4	SDR	162	190.350
4	SBS	49	57.575
6	BUR	117	137.475
6	SBS	42	49.350
6	KFS	53	62.275
7	SDR	128	150.400
8	SDS	74	86.950

```
10 rows in set (0.00 sec)
```

11. Find the Seating Capacity on a DC9.

```
mysql> SELECT NoOfSeats
-> FROM Aircraft
-> WHERE AircraftType = 'DC9';
```

NoOfSeats
43

```
1 row in set (0.04 sec)
```

12. List Descriptions of Aircraft with more than 50 seats.

```
mysql> SELECT ADescription
-> FROM Aircraft
-> WHERE NoOfSeats>50;
```

ADescription
Boeing 737-300 Jet
Airbus A330-200
Boeing 747SP
Douglas DC-9-50

```
4 rows in set (0.00 sec)
```