OMAR ISMAIL ABDJALEEL ALOMORY

Matric No: S63955

Date: 31/12/2022

Lab: MP3

Lecturer: Dr. ROSAIDA ROSLY

MUHAMMAD NASYRUL ADLY BIN MOHD AFANDY
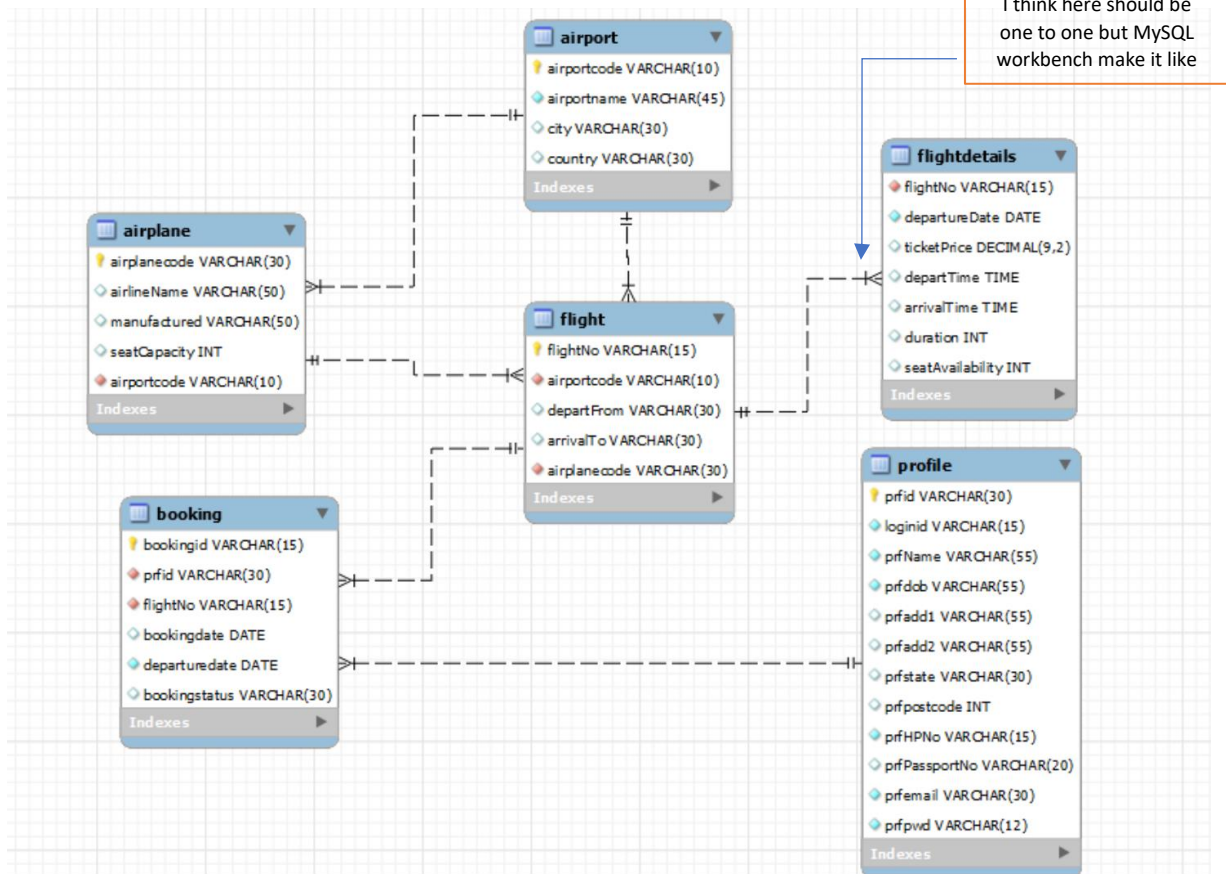
Lab 6

DATABASE (CSF3123) K2

Activity 1

Task 1

Create a Entity Relationship Diagram (ERD) for this scenario.

I think here should be one to one but MySQL workbench make it like

Task 2

Create a table based on data dictionary and apply all business rules stated in the requirements, and referential integrity for related entities.

```sql
 4        -- creating profile table -- -------------------------------------------- 1
 5  ● ⊖  CREATE TABLE profile(
 6         prfid VARCHAR(30) PRIMARY KEY NOT NULL,
 7         loginid VARCHAR(15) UNIQUE NOT NULL,
 8         prfName VARCHAR(55) NOT NULL,
 9         prfdob VARCHAR(55) NOT NULL,
10         prfadd1 VARCHAR(55),
11         prfadd2 VARCHAR(55),
12         prfstate VARCHAR(30),
13         prfpostcode INT(5),
14         prfHPNo VARCHAR(15) NOT NULL,
15         prfPassportNo VARCHAR(20),
16         prfemail VARCHAR(30) NOT NULL,
17         prfpwd VARCHAR(12) NOT NULL
18        );
19        -- --------------------------------------------------------------------------
20        -- CREATING AIRPORT TABLE -------------------------- 2
21  ● ⊖  CREATE TABLE airport(
22         airportcode VARCHAR(10) PRIMARY KEY NOT NULL,
23         airportname VARCHAR(45) NOT NULL,
24         city VARCHAR(30),
25         country VARCHAR(30)
26        );
27        -- ----------------------------------------------------------------------
28        -- CREATING FLIGHT TABLE  ------------------- 4
29  ● ⊖  CREATE TABLE flight (
30         flightNo VARCHAR(15) PRIMARY KEY NOT NULL,
31         airportcode VARCHAR(10) NOT NULL,-- FOREIGN KEY REF TO AIRPORT TABLE
32         departFrom VARCHAR(30),
33         arrivalTo VARCHAR(30),
34         airplanecode VARCHAR(30) NOT NULL, -- FORIEGN KEY REF AIRPLANE TABLE
35         CONSTRAINT fk_flight_airportcode FOREIGN KEY(airportcode) REFERENCES airport(airportcode),
36         CONSTRAINT fk_flight_airplanecode FOREIGN KEY (airplanecode) REFERENCES airplane(airplanecode)
37        );
```

```sql
38      -- --------------------------------------------------------------------
39      -- CREATING AIRPLANE TABLE -------------- 3
40  ● ⊖ CREATE TABLE airplane(
41      airplanecode VARCHAR(30) PRIMARY KEY NOT NULL,
42      airlineName VARCHAR(50),
43      manufactured VARCHAR(50),
44      seatCapacity INT(30),
45      airportcode VARCHAR(10) NOT NULL,
46      CONSTRAINT fk_airplane_airportcode FOREIGN KEY(airportcode) REFERENCES airport (airportcode)
47      );
48      -- --------------------------------------------------------------------
49      -- CREATE FLIGHT DETAILES TABLE ------------------------------- 5
50  ● ⊖ CREATE TABLE flightDetails (
51      flightNo VARCHAR(15) NOT NULL, -- FOREIGN KEY REF FLIGHT TABLE
52      departureDate DATE NOT NULL,
53      ticketPrice DECIMAL(9,2) ,
54      departTime TIME,
55      arrivalTime TIME,
56      duration INT,
57      seatAvailability INT,
58      CONSTRAINT fk_flightDetails_flightNo FOREIGN KEY(flightNo) REFERENCES flight(flightNo)
59
60      );
61      -- --------------------------------------------------------------------
62      -- CREATING BOOKING TABLE
63  ● ⊖ CREATE TABLE booking (
64      bookingid VARCHAR(15) PRIMARY KEY NOT NULL,
65      prfid VARCHAR (30) NOT NULL, -- FOREIGN KEY REF PROFILE TABLE
66      flightNo VARCHAR(15) NOT NULL, -- FOREIGN KEY REF FLIGHT TABLE
67      bookingdate Date ,
68      departuredate DATE NOT NULL,
69      bookingstatus VARCHAR(30) ,
70      CONSTRAINT ck_booking_bookingstatus CHECK(bookingstatus IN ('Booking','Confirmed')),
71      CONSTRAINT fk_booking_prfid FOREIGN KEY(prfid) REFERENCES profile(prfid),
72      CONSTRAINT fk_booking_flightNo FOREIGN KEY(flightNo) REFERENCES flight(flightNo)
73      );
74      -- --------------------------------------------------------------------
```

Output

#	Time	Action	Message	Duration / Fetch
✓	1 14:39:48	CREATE DATABASE airlines_booking_system	1 row(s) affected	0.000 sec
✓	2 14:40:10	USE airlines_booking_system	0 row(s) affected	0.000 sec
⚠	3 18:13:44	CREATE TABLE profile(prfid VARCHAR(30) PRIMARY KEY NOT NULL, loginid VARCHAR(15) UNIQUE...	0 row(s) affected, 1 warning(s): 1681 Integer display width is deprecated and will be removed in a future rel...	0.016 sec
✓	4 18:13:48	CREATE TABLE airport(airportcode VARCHAR(10) PRIMARY KEY NOT NULL, airportname VARCHAR(...	0 row(s) affected	0.031 sec
⚠	5 18:14:12	CREATE TABLE airplane(airplanecode VARCHAR(30) PRIMARY KEY NOT NULL, airlineName VARCH...	0 row(s) affected, 1 warning(s): 1681 Integer display width is deprecated and will be removed in a future rel...	0.015 sec
✓	6 18:14:36	CREATE TABLE flight (flightNo VARCHAR(15) PRIMARY KEY NOT NULL, airportcode VARCHAR(10) N...	0 row(s) affected	0.031 sec
✗	7 18:14:51	CREATE TABLE flight (flightNo VARCHAR(15) PRIMARY KEY NOT NULL, airportcode VARCHAR(10) N...	Error Code: 1050. Table 'flight' already exists	0.015 sec
✓	8 18:15:09	CREATE TABLE flightDetails (flightNo VARCHAR(15) NOT NULL, -- FOREIGN KEY REF FLIGHT TABL...	0 row(s) affected	0.031 sec
✓	9 18:15:16	CREATE TABLE booking (bookingid VARCHAR(15) PRIMARY KEY NOT NULL, prfid VARCHAR (30) N...	0 row(s) affected	0.031 sec

Task 3

Create a record for each table based on data provided in Table 2.

```sql
39    INSERT INTO airport (airportcode, airportname, city, country)
40    VALUES
41      ('KUL', 'Kuala Lumpur Airport', 'Kuala Lumpur', 'Malaysia'),
42      ('TGG', 'Sultan Mahmud KT Airport', 'Kuala Terengganu', 'Malaysia'),
43      ('DMK', 'Suvarnabhumi Airport', 'Bangkok', 'Thailand'),
44      ('CGK', 'Jakarta Soekarno-Hatta Int. Airport', 'Jakarta', 'Indonesia'),
45      ('PEN', 'Penang Int. Airport', 'Penang', 'Malaysia'),
46      ('SGN', 'Ho Chi Minh Airport', 'Ho Chi Minh', 'Vietnam'),
47      ('SIN', 'Changi Int. Airport', 'Changi', 'Singapore'),
48      ('KBR', 'Kota Bahru Airport', 'Kota Bahru', 'Malaysia'),
49      ('LGK', 'Langkawi Int. Airport', 'Langkawi', 'Malaysia'),
50      ('SYD', 'Sydney Int. Airport', 'Sydney', 'Australia'),
51      ('KIX', 'Osaka Int. Airport', 'Osaka', 'Japan');
52    -- -----------------------------------------------------------------------
89    -- inserting values ---------------- 2
90    INSERT INTO airplane (airplanecode, airlinename, manufactured, seatcapacity, airportcode)
91    VALUES
92      ('BFT125QR', 'Malaysia Airlines', 'Boeing', 155, 'KUL'),
93      ('QZB34THY', 'AirAsia', 'Airbus', 135, 'KUL'),
94      ('SFT5267U', 'Singapore Airlines', 'Airbus', 155, 'SIN'),
95      ('PV17BWE', 'AirAsia', 'Airbus', 135, 'KUL'),
96      ('TH61GH8', 'Thai Airways', 'Boeing', 180, 'DMK'),
97      ('HQA782K', 'Malaysia Airlines', 'Boeing', 155, 'KUL'),
98      ('Z2K8286P', 'Malaysia Airlines', 'Boeing', 155, 'KUL'),
99      ('KDK234Y', 'AirAsia', 'Airbus', 190, 'KUL'),
100     ('SDH529H', 'AirAsia', 'Airbus', 155, 'CGK'),
101     ('SRF458U', 'Singapore Airlines', 'Airbus', 190, 'SIN');
102   --
19    INSERT INTO profile (prfid, loginid, prfName, prfdob, prfadd1, prfadd2, prfstate, prfpostcode, prfHPNo, prfPassportNo, prfemail, prfpwd)
20    VALUES ('811201101002', 'user1', 'Nur Aznah Ibrahim', '01-12-1981', 'No. 5, Taman Pasir Putih', 'Pasir Puteh', 'Kelantan', 16800, '011-8802142', 'C3341298', 'aznah@gmail.com', 'user001'),
21           ('830712074120', 'user2', 'Mohamad Rosli Ali', '12-07-1983', 'No. 3, Blok A1-2', 'Taman Perda', 'P. Pinang', 13800, '012-5541289', 'C0083487', 'rosli@yahoo.com.my', 'user002'),
22           ('910215083021', 'user3', 'Ramlah Azman', '15-02-1991', '167, Tmn Alam Megah', 'Shah Alam', 'Selangor', 42300, '019-3329034', 'C5412123', 'ram@gmail.com', 'user003'),
23           ('790516092123', 'user4', 'Angeline Lee', '16-05-1976', '6789, Astana Kondominium', 'Johor Bahru', 'Johor', 80300, '013-7783457', 'C1274589', 'angeline@gmail.com', 'user004'),
24           ('890812071267', 'user5', 'Ahmad Yunos Azmi', '12-08-1989', 'Lot 16, Tmn Gong Badak', 'Kuala Terengganu', 'Terengganu', 21030, '016-9928927', 'C2204517', 'yunos@gmail.com', 'user005'),
25           ('870412113245', 'user6', 'Abdul Rahman Ismail', '12-04-1987', 'Lot. 145, Kg. Tok Molor', 'Kuala Terengganu', 'Terengganu', 21070, '013-9982325', 'C1245689', 'ar@yahoo.com', 'user006'),
26           ('841207110923', 'user7', 'Zainal Mokhtar', '07-12-1984', 'B123, Feringgi Apartment', 'Batu Ferringi', 'Penang', 11100, '019-5519729', 'C1547567', 'zainal@yahoo.com', 'user007'),
27           ('FS-1001-200', 'user8', 'Steven Darren', '10-08-1982', 'A-102, Geylang Park', 'Geylang', 'Singapore', 388264, '+65-6681010', 'SG200100-10', 'darren@yahoo.com.sg', 'user008'),
28           ('870910119034', 'user9', 'Nurwani Hashim', '10-09-1987', '12, Taman ketereh', 'Kota Bahru', 'Kelantan', 15200, '019-9961278', 'C7123789', 'wani@gmail.com', 'user009'),
29           ('850918103698', 'user10', 'Wan Azman', '18-09-1985', 'No.2, Tmn Setia Alam', 'Klang', 'Selangor', 42400, '012-3353660', 'C5183672', 'wan@yahoo.com', 'user010');
30    -- -----------------------------------------------------------------------
114   -- inserting values
115   INSERT INTO flightdetails (flightno, departuredate, ticketprice, departtime, arrivaltime, duration, seatavailability)
116   VALUES
117     ('MH1130', '2016-08-12', 560.00, '9:50', '10:45', 50, 20),
118     ('MH1131', '2016-08-12', 480.00, '11:30', '12:20', 50, 70),
119     ('AK3522', '2016-08-13', 550.00, '13:15', '14:35', 90, 55),
120     ('AK3522', '2016-08-18', 490.00, '16:30', '17:30', 90, 70),
121     ('AK2010', '2016-08-14', 189.00, '20:05', '21:00', 55, 15),
122     ('SQ106', '2016-08-15', 890.00, '9:00', '10:00', 60, 10),
123     ('SQ231', '2016-08-20', 1890.00, '00:30', '06:30', 360, 35),
124     ('AK6322', '2016-08-22', 220.00, '11:35', '12:20', 45, 10),
125     ('TG001', '2016-08-16', 1400.00, '9:00', '11:15', 135, 80),
126     ('MH1326', '2016-08-28', 460.00, '9:15', '10:10', 55, 45),
127     ('D7532', '2016-09-05', 1900.00, '14:30', '21:30', 420, 60),
128     ('QZ200', '2016-09-07', 380.00, '10:00', '11:15', 75, 20),
129     ('SQ552', '2016-09-07', 2300.00, '9:00', '16:00', 420, 60),
130     ('MH1450', '2016-09-05', 110.00, '15:00', '15:50', 50, 5);
131   -- -----------------------------------------------------------------------
```

```
144    -- inserting values
145  ● INSERT INTO booking (bookingid, prfid, flightNo, bookingdate,departuredate, bookingstatus)
146    VALUES ('PQ36TY', '811201101002', 'AK3522', '2016-07-07', '2016-08-13', 'Confirmed'),
147           ('ZY78UJ', '790516092123', 'SQ106', '2016-07-25', '2016-08-15', 'Confirmed'),
148           ('G34ERU', '870412113245', 'AK6322', '2016-06-15', '2016-08-22', 'Confirmed'),
149           ('MA5RT7', '830712074120', 'AK2010', '2016-07-01', '2016-08-14', 'Confirmed'),
150           ('PD63TJ', '841207110923', 'AK3522', '2016-07-15', '2016-08-18', 'Confirmed'),
151           ('LF34FB7', '910215083021', 'MH1450', '2016-07-11', '2016-09-05', 'Confirmed'),
152           ('BZ59YUK', '890812071267', 'D7532', '2016-08-15', '2016-09-05', 'Booking'),
153           ('N5GH78', 'FS-1001-200', 'TG001', '2016-04-12', '2016-08-16', 'Confirmed'),
154           ('A45F6Y', '811201101002', 'MH1130', '2016-07-02', '2016-08-12', 'Confirmed'),
155           ('QK52TG', '870910119034', 'QZ200', '2016-05-18', '2016-09-07', 'Confirmed'),
156           ('BNPYK3', '870412113245', 'AK2010', '2016-06-10', '2016-08-14', 'Confirmed'),
157           ('TK43FK', '790516092123', 'SQ106', '2016-07-05', '2016-08-15', 'Confirmed'),
158           ('P43ERF', '890812071267', 'AK6322', '2016-07-28', '2016-08-22', 'Confirmed'),
159           ('8R421G', '830712074120', 'SQ231', '2016-05-10', '2016-08-20', 'Confirmed'),
160           ('S45NB6', 'FS-1001-200', 'MH1131', '2016-08-01', '2016-08-12', 'Confirmed'),
161           ('D2KYUT', '790516092123', 'SQ552', '2016-04-04', '2016-09-07', 'Confirmed'),
162           ('ZB52FD', '841207110923', 'MH1326', '2016-07-22', '2016-08-28', 'Confirmed'),
163           ('RS40TG2', '850918103698', 'AK6322', '2016-06-03', '2016-08-22', 'Confirmed'),
164           ('AG47YB', '870910119034', 'MH1450', '2016-07-12', '2016-09-05', 'Booking');
165    -- ----------------------------------------------------------------------------------------------------
 63    -- inserting values
 64  ● INSERT INTO flight (flightno, airportcode, departfrom, arrivalto, airplanecode)
 65    VALUES
 66       ('MH1130', 'KUL', 'KUL', 'KBR', 'BFT125QR'),
 67       ('MH1131', 'KUL', 'KBR', 'KUL', 'BFT125QR'),
 68       ('AK3522', 'KUL', 'KUL', 'SGN', 'QZB34THY'),
 69       ('AK2010', 'KUL', 'TGG', 'KUL', 'QZB34THY'),
 70       ('SQ106', 'SIN', 'SIN', 'KUL', 'SFT5267U'),
 71       ('SQ231', 'SIN', 'SIN', 'SYD', 'SFT5267U'),
 72       ('AK6322', 'KUL', 'KUL', 'LGK', 'PV178WE'),
 73       ('TG001', 'DMK', 'DMK', 'KUL', 'TH61GHB'),
 74       ('MH1326', 'KUL', 'KUL', 'TGG', 'HQA782K'),
 75       ('D7532', 'KUL', 'KUL', 'KIX', 'KDK234Y'),
 76       ('QZ200', 'CGK', 'CGK', 'KUL', 'SDH529H'),
 77       ('SQ552', 'SIN', 'SIN', 'KIX', 'SRF458U'),
 78       ('MH1450', 'KUL', 'KUL', 'PEN', 'ZJK8286P');
 79    -- ----------------------------------------------------------------------------------------------------
```

Output

●	14 18:54:20	PREPARE stmt FROM 'INSERT INTO `airlines_booking_system`.`profile` (`prfid`,`loginid`,`prfName`,`prfd...	OK	0.000 sec
●	15 18:54:20	DEALLOCATE PREPARE stmt	OK	0.000 sec
●	16 18:54:31	SELECT * FROM airlines_booking_system.profile LIMIT 0, 1000	10 row(s) returned	0.000 sec / 0.000 sec
●	17 18:55:43	SELECT * FROM profile LIMIT 0, 1000	10 row(s) returned	0.000 sec / 0.000 sec
●	18 18:56:40	SELECT * FROM profile ORDER BY loginid ASC LIMIT 0, 1000	10 row(s) returned	0.000 sec / 0.000 sec
●	19 19:01:18	SELECT * FROM profile LIMIT 0, 1000	10 row(s) returned	0.000 sec / 0.000 sec
●	20 19:12:39	INSERT INTO airport (airportcode, airportname, city, country) VALUES ('KUL', 'Kuala Lumpur Airport', '...	11 row(s) affected Records: 11 Duplicates: 0 Warnings: 0	0.015 sec
●	21 19:12:59	INSERT INTO airplane (airplanecode, airlinename, manufactured, seatcapacity, airportcode) VALUES ...	10 row(s) affected Records: 10 Duplicates: 0 Warnings: 0	0.016 sec
●	22 19:13:28	INSERT INTO flight (flightno, airportcode, departfrom, arrivalto, airplanecode) VALUES ('MH1130', 'K...	13 row(s) affected Records: 13 Duplicates: 0 Warnings: 0	0.016 sec
✕	23 19:13:44	INSERT INTO flightdetails (flightno, departuredate, ticketprice, departtime, arrivaltime, duration, seatav...	Error Code: 1292. Incorrect date value: '12-08-2016' for column 'departureDate' at row 1	0.015 sec
●	24 19:16:42	INSERT INTO flightdetails (flightno, departuredate, ticketprice, departtime, arrivaltime, duration, seatav...	14 row(s) affected Records: 14 Duplicates: 0 Warnings: 0	0.016 sec
●	25 19:20:44	INSERT INTO booking (bookingid, prfid, flightNo, bookingdate,departuredate, bookingstatus) VALUES...	19 row(s) affected Records: 19 Duplicates: 0 Warnings: 0	0.016 sec

Activity 2

```
1      -- 1. Find the number of airport that originated from Malaysia. Rename the output as
2      -- TotalMalaysiaAirport.
3   •  SELECT COUNT(country) AS TotalMalaysiaAirport  FROM airport
4      WHERE country ='Malaysia';
5      -- -------------------------------------------------------------------------------------
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: 𝐼A

TotalMalaysiaAirport
5

Output

Action Output

#	Time	Action	Message
✅ 1	19:50:31	SELECT COUNT(country) AS TotalMalaysiaAirport FROM airport WHERE country ='Malaysia' LIMIT 0, ...	1 row(s) returned

```
5      -- -------------------------------------------------------------------------------------
6      -- 2.Find the number of AirAsia flight departure from 05 June 2016 to 15 August 2016 and booking
7      -- status is confirmed.
8   •  SELECT COUNT(*) AS 'AirAsia-D-f05_6-t15_8' FROM airplane
9      INNER JOIN flight USING (airplanecode) INNER JOIN booking USING(flightNo)
10     WHERE airlineName ='AirAsia' AND departuredate BETWEEN '2016-06-05' AND '2016-08-15';
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: 𝐼A

AirAsia-D-f05_6-t15_8
3

Result 2 ×

Output

Action Output

#	Time	Action	Message
✅ 1	19:53:07	SELECT COUNT(*) AS 'AirAsia-D-f05_6-t15_8' FROM airplane INNER JOIN flight USING (airplanecode)...	1 row(s) returned

```
11        -- -------------------------------------------------------------------------------
12        -- 3. Display the maximum and minimum price ticket for all airline for booking date from 01 April to
13        -- 15 Sept 2016 for Malaysia Airlines.
14  •   SELECT MAX(ticketPrice), MIN(ticketPrice) FROM booking
15        INNER JOIN flight USING (flightNo) INNER JOIN flightdetails USING (flightNo)
16        WHERE bookingdate BETWEEN '2016-04-01' AND '2016-09-15'
17        AND flight.airplanecode IN (SELECT airplanecode FROM airplane WHERE airlineName ='Malaysia Airlines');
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

MAX(ticketPrice)	MIN(ticketPrice)
560.00	110.00

Result 4 ×

Output

Action Output

#	Time	Action	Message
✓	1 19:55:41	SELECT MAX(ticketPrice), MIN(ticketPrice) FROM booking INNER JOIN flight USING (flightNo) INNER ...	1 row(s) returned

```
20        -- -------------------------------------------------------------------------------
21        -- 4. Retrieve airport code, airport name, number of flight and average flight duration for all airport
22        -- order by airport name in ascending order.
23  •   SELECT airportcode, airportname, COUNT(airportcode),AVG(duration) FROM airport
24        INNER JOIN flight USING(airportcode) INNER JOIN flightdetails USING (flightNo)
25        GROUP BY airportcode
26        ORDER BY airportname ASC;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

airportcode	airportname	COUNT(airportcode)	AVG(duration)
SIN	Changi Int. Airport	3	280.0000
CGK	Jakarta Soekarno-Hatta Int. Airport	1	75.0000
KUL	Kuala Lumpur Airport	9	100.5556
DMK	Suvarnabhumi Airport	1	135.0000

Result 7 ×

Output

Action Output

#	Time	Action	Message
✓	1 19:56:18	SELECT airportcode, airportname, COUNT(airportcode),AVG(duration) FROM airport INNER JOIN flight ...	4 row(s) returned

```
20      -- -------------------------------------------------------------------------------------
21      -- 4. Retrieve airport code, airport name, number of flight and average flight duration for all airport
22      -- order by airport name in ascending order.
23  •   SELECT airportcode, airportname, COUNT(airportcode),AVG(duration) FROM airport
24      INNER JOIN flight USING(airportcode) INNER JOIN flightdetails USING (flightNo)
25      GROUP BY airportcode
26      ORDER BY airportname ASC;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: A

airportcode	airportname	COUNT(airportcode)	AVG(duration)
SIN	Changi Int. Airport	3	280.0000
CGK	Jakarta Soekarno-Hatta Int. Airport	1	75.0000
KUL	Kuala Lumpur Airport	9	100.5556
DMK	Suvarnabhumi Airport	1	135.0000

Result 7 ×

Output

Action Output

#	Time	Action	Message
✓	1	19:56:18	SELECT airportcode, airportname, COUNT(airportcode),AVG(duration) FROM airport INNER JOIN flight ...	4 row(s) returned

```
27      -- -------------------------------------------------------------------------------------
28      -- 5. Display profile id, profile name, his state and the frequent passenger flies for passenger who
29      -- make more than one booking.
30  •   SELECT prfid, prfname, prfstate ,COUNT(prfid) AS 'Frequent Passengers' FROM profile
31      INNER JOIN booking USING(prfid)
32      GROUP BY prfid
33      HAVING COUNT(prfid) >1;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: A

prfid	prfname	prfstate	Frequent Passengers
790516092123	Angeline Lee	Johor	3
811201101002	Nur Aznah Ibrahim	Kelantan	2
830712074120	Mohamad Rosli ALi	P. Pinang	2
841207110923	Zainal Mokhtar	Penang	2
870412113245	Abdul Rahman Ismail	Terengganu	2
870910119034	Nurwani Hashim	Kelantan	2
890812071267	Ahmad Yunos Azmi	Terengganu	2
FS-1001-200	Steven Darren	Singapore	2

Result 9 ×

Output

Action Output

#	Time	Action	Message
✓	1	19:58:26	SELECT prfid, prfname, prfstate ,COUNT(prfid) AS 'Frequent Passengers' FROM profile INNER JOIN boo...	8 row(s) returned

```
34    -- -------------------------------------------------------------------------
35    -- 6. Display passenger id, name, total amount ticket price booked by every passenger where the
36    -- total amount of ticket price is exceeded the average ticket price offered by Air Asia airlines.
37 •  SELECT prfid AS 'ID', prfname AS 'Name', SUM(ticketPrice) AS 'Total Amount Ticket Booked' ,
38    MAX(ticketPrice),MIN(ticketPrice), AVG(ticketPrice),COUNT(ticketPrice)AS 'Booked Ticket'
39    FROM profile INNER JOIN booking USING(prfid) INNER JOIN flightdetails USING(flightNo)
40    WHERE  bookingstatus ='Confirmed'
41    GROUP BY prfid
42  ⊖ HAVING SUM(ticketPrice) > (SELECT AVG(ticketPrice) FROM flightdetails
43    INNER JOIN flight USING (flightNo) INNER JOIN airplane USING (airplanecode)
44    WHERE airlineName = 'AirAsia' );
```
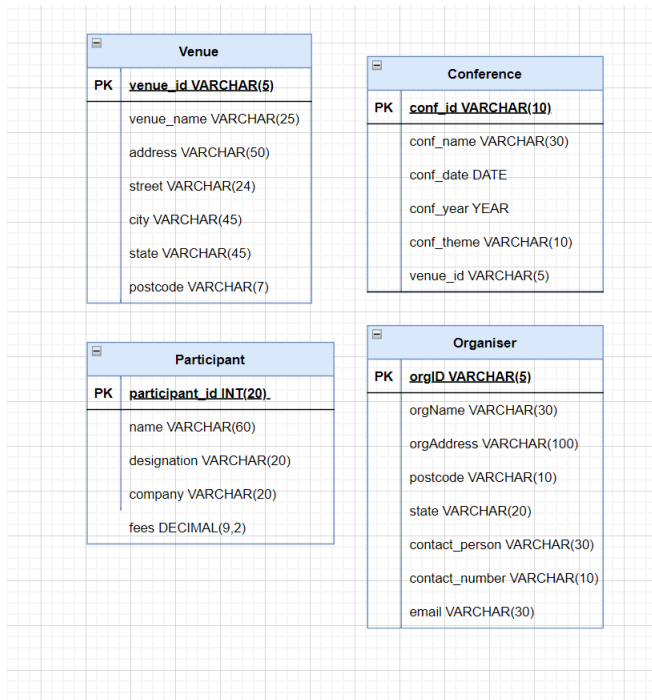
Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

ID	Name	Total Amount Ticket Booked	MAX(ticketPrice)	MIN(ticketPrice)	AVG(ticketPrice)	Booked Ticket
▶ 830712074120	Mohamad Rosli ALi	2079.00	1890.00	189.00	1039.500000	2
811201101002	Nur Aznah Ibrahim	1600.00	560.00	490.00	533.333333	3
790516092123	Angeline Lee	4080.00	2300.00	890.00	1360.000000	3
FS-1001-200	Steven Darren	1880.00	1400.00	480.00	940.000000	2
841207110923	Zainal Mokhtar	1500.00	550.00	460.00	500.000000	3

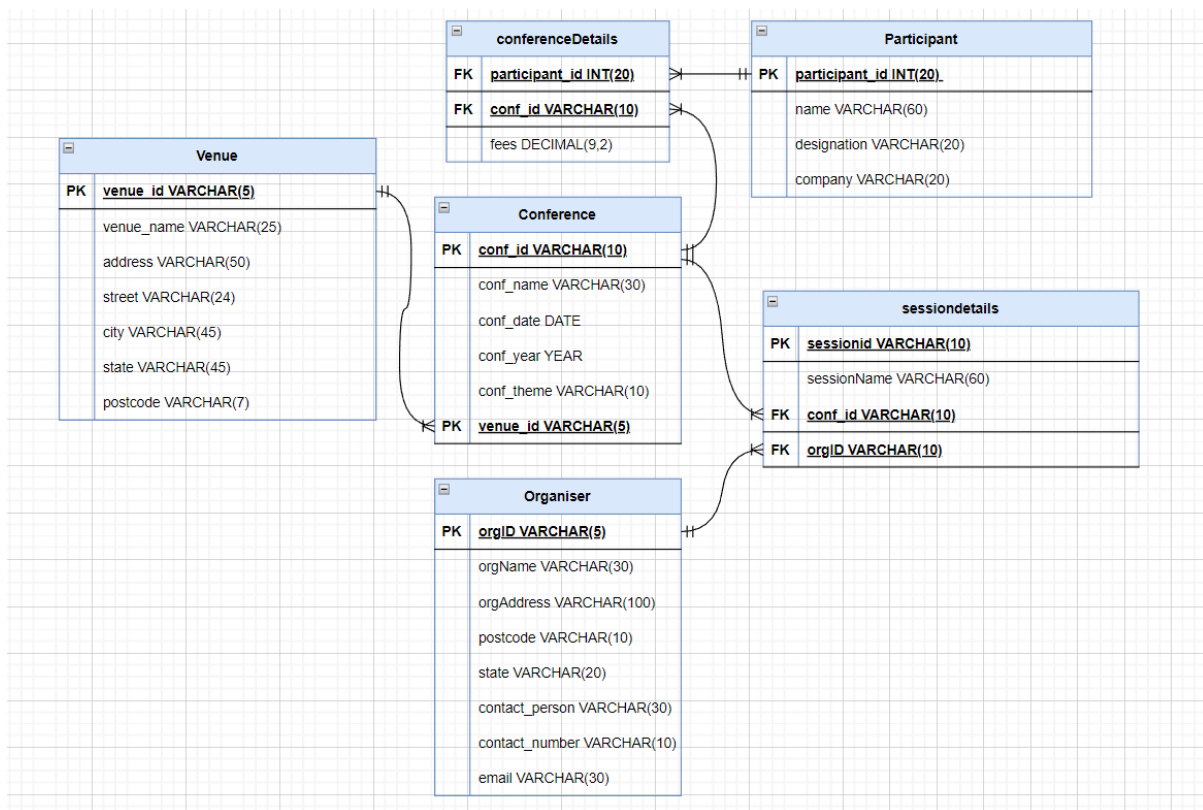Result 11 ✕

Output

Action Output

#	Time	Action	Message
✅ 1	20:03:23	SELECT prfid AS 'ID', prfname AS 'Name', SUM(ticketPrice) AS 'Total Amount Ticket Booked' , MAX(tick...	5 row(s) returned

Lab Exercie

TASK 1

Venue

PK	venue_id VARCHAR(5)
	venue_name VARCHAR(25)
	address VARCHAR(50)
	street VARCHAR(24)
	city VARCHAR(45)
	state VARCHAR(45)
	postcode VARCHAR(7)

Conference

PK	conf_id VARCHAR(10)
	conf_name VARCHAR(30)
	conf_date DATE
	conf_year YEAR
	conf_theme VARCHAR(10)
	venue_id VARCHAR(5)

Participant

PK	participant_id INT(20)
	name VARCHAR(60)
	designation VARCHAR(20)
	company VARCHAR(20)
	fees DECIMAL(9,2)

Organiser

PK	orgID VARCHAR(5)
	orgName VARCHAR(30)
	orgAddress VARCHAR(100)
	postcode VARCHAR(10)
	state VARCHAR(20)
	contact_person VARCHAR(30)
	contact_number VARCHAR(10)
	email VARCHAR(30)

TASK 2

conferenceDetails

FK	participant_id INT(20)
FK	conf_id VARCHAR(10)
	fees DECIMAL(9,2)

Participant

PK	participant_id INT(20)
	name VARCHAR(60)
	designation VARCHAR(20)
	company VARCHAR(20)

Venue

PK	venue_id VARCHAR(5)
	venue_name VARCHAR(25)
	address VARCHAR(50)
	street VARCHAR(24)
	city VARCHAR(45)
	state VARCHAR(45)
	postcode VARCHAR(7)

Conference

PK	conf_id VARCHAR(10)
	conf_name VARCHAR(30)
	conf_date DATE
	conf_year YEAR
	conf_theme VARCHAR(10)
PK	venue_id VARCHAR(5)

sessiondetails

PK	sessionid VARCHAR(10)
	sessionName VARCHAR(60)
FK	conf_id VARCHAR(10)
FK	orgID VARCHAR(10)

Organiser

PK	orgID VARCHAR(5)
	orgName VARCHAR(30)
	orgAddress VARCHAR(100)
	postcode VARCHAR(10)
	state VARCHAR(20)
	contact_person VARCHAR(30)
	contact_number VARCHAR(10)
	email VARCHAR(30)

```sql
CREATE TABLE Organiser (
    orgID VARCHAR(5) PRIMARY KEY,
    orgName VARCHAR(30) NOT NULL,
    orgAddress VARCHAR(100) NOT NULL,
    postcode VARCHAR(10) NOT NULL,
    state VARCHAR(20) NOT NULL,
    contact_person VARCHAR(30) NOT NULL,
    contact_number VARCHAR(10) NOT NULL,
    email VARCHAR(30) NOT NULL
);
-- insertion:
INSERT INTO Organiser VALUES
('100','Abu','19, Taman AAA','56466','Melaka', 'John','0174562775','John@gmail.com'),
('101', 'Kelvin','19, Taman BBB', '84666','Kuala Lumpur','Lim','0175487545','Lim@gmail.com'),
('102','Siti', '19, Taman CCC', '94555','Penang','Ali','0175488548','Ali@gmail.com');


CREATE TABLE Conference (
    conf_id VARCHAR(10) PRIMARY KEY,
    conf_name VARCHAR(30) NOT NULL,
    conf_date DATE NOT NULL,
    conf_year YEAR NOT NULL,
    conf_theme VARCHAR(10) NOT NULL,
    venue_id VARCHAR(5) NOT NULL,
    CONSTRAINT fk_Conference_venue_id FOREIGN KEY (venue_id) REFERENCES Venue(venue_id)
);
-- insertion
INSERT INTO Conference VALUES
('DSC2010','Iris','2010-10-02','2010','Economic','v0001'),
('IOTC2016','Harry','2016-05-24','2016','Education','v0004'),
('DSC2008','Siti','2008-01-25','2008','Economic','v0003'),
('IOTC2003','Abu','2003-07-28','2003','Education','v0005'),
('DSC2015','John','2015-06-08','2015','Play','v0001');


CREATE TABLE Venue (
    venue_id VARCHAR(5) PRIMARY KEY,
    venue_name VARCHAR(25) NOT NULL,
    address VARCHAR(50) NOT NULL,
    street VARCHAR(24) NOT NULL,
    city VARCHAR(45) NOT NULL,
    state VARCHAR(45) NOT NULL,
    postcode VARCHAR(7) NOT NULL
);
-- insertion
INSERT INTO Venue VALUES
('v0001','Dire','Taman ZZZ','Top Lane','Jasin','Melaka','56466'),
('v0002','Aurora','Taman YYY','Top Lane','Muar','Johor','84000'),
('v0003','Dire','Taman WWW','Old Town', 'Georgettown','Penang','94555'),
('v0004','Sentinel','Taman VVV','Mid Lane','Batu Rakit','Terengganu','24000'),
('v0005', 'Radiant','Taman SSS','Top Lane', 'Segamat','Johor','45000');
```

```sql
66  CREATE TABLE Participant (
67      participant_id INT(20) PRIMARY KEY AUTO_INCREMENT,
68      name VARCHAR(60) NOT NULL,
69      designation VARCHAR(20) NOT NULL,
70      company VARCHAR(20) NOT NULL
71  );
72  ALTER TABLE participant AUTO_INCREMENT =10001;
73
74  -- insertion:
75  INSERT INTO Participant VALUES
76  (DEFAULT,'Kobe','Star','Galaxy'),
77  (DEFAULT,'May','Moon','Moonlight'),
78  (DEFAULT,'Candy','Candy','CandyCrush'),
79  (DEFAULT,'James','Cloud','Wind'),
80  (DEFAULT,'Daniel','Sun','Sunny');
81
82  CREATE TABLE sessiondetails(
83      sessionid VARCHAR(10) PRIMARY KEY NOT NULL,
84      sessionName VARCHAR(60),
85      orgID VARCHAR(10) NOT NULL,
86      conf_id VARCHAR(10) NOT NULL,
87      CONSTRAINT fk_sessiondetails_orgID FOREIGN KEY(orgID) REFERENCES Organiser(orgID),
88      CONSTRAINT fk_sessiondetails_conf_id FOREIGN KEY(conf_id) REFERENCES Conference(conf_id)
89  );
90
91  -- insertion:
92  INSERT INTO sessiondetails VALUES
93  ('S0001','Morning','101','DSC2010'),
94  ('S0002','Evening','100','DSC2015'),
95  ('S0003','Night','102','IOTC2016'),
96  ('S0004','Evening','100','IOTC2003'),
97  ('S0005','Night','101','DSC2008');
99  CREATE TABLE conferenceDetails(
100     conf_id VARCHAR(10) NOT NULL,
101     participant_id INT(20) NOT NULL,
102     fees DECIMAL(9,2) NOT NULL,
103     CONSTRAINT ck_Participant_fees CHECK (fees IN (3000,2500,2000)),
104     CONSTRAINT fk_conferenceDetails_conf_id FOREIGN KEY(conf_id) REFERENCES Conference(conf_id),
105     CONSTRAINT fk_conferenceDetails_participant_id FOREIGN KEY(participant_id) REFERENCES Participant(participant_id)
106 );
107
108 -- insertion:
109 INSERT INTO conferenceDetails VALUES
110 ('DSC2010','10001',3000),
111 ('DSC2015','10002',2000),
112 ('IOTC2016','10003',2500),
113 ('IOTC2003','10004',2500),
114 ('DSC2008','10005',2000);
```

OUTPUT OF CREATING AND INSERTION OF TABLES

	#	Time	Action	Message	Duration / Fetch
✓	1	19:15:53	CREATE DATABASE Research_Corporation_System	1 row(s) affected	0.015 sec
✓	2	19:15:54	USE Research_Corporation_System	0 row(s) affected	0.000 sec
✓	3	19:15:56	CREATE TABLE Organiser (orgID VARCHAR(5) P...	0 row(s) affected	0.016 sec
✓	4	19:16:02	CREATE TABLE Venue (venue_id VARCHAR(5) P...	0 row(s) affected	0.015 sec
✓	5	19:16:05	CREATE TABLE Conference (conf_id VARCHAR(...	0 row(s) affected	0.032 sec
⚠	6	19:16:08	CREATE TABLE Participant (participant_id INT(20)...	0 row(s) affected, 1 warning(s): 1681 Integer display ...	0.016 sec
✓	7	19:16:10	ALTER TABLE participant AUTO_INCREMENT =10...	0 row(s) affected Records: 0 Duplicates: 0 Warning...	0.000 sec
✓	8	19:16:15	CREATE TABLE sessiondetails(sessionid VARCHA...	0 row(s) affected	0.031 sec
⚠	9	19:16:17	CREATE TABLE conferenceDetails(conf_id VARCH...	0 row(s) affected, 1 warning(s): 1681 Integer display ...	0.015 sec

	#	Time	Action	Message	Duration / Fetch
✓	1	19:59:38	INSERT INTO Organiser VALUES ('00001','Alomory','...	3 row(s) affected Records: 3 Duplicates: 0 Warning...	0.016 sec
✓	2	19:59:44	INSERT INTO Venue VALUES ('v0001','Dire','Tama...	5 row(s) affected Records: 5 Duplicates: 0 Warning...	0.015 sec
✓	3	19:59:47	INSERT INTO Conference VALUES ('DSC2010','Iris'...	5 row(s) affected Records: 5 Duplicates: 0 Warning...	0.015 sec
✗	4	19:59:51	INSERT INTO Participant VALUES ('Kobe','Star','Ga...	Error Code: 1136. Column count doesn't match value...	0.000 sec
✓	5	20:00:22	INSERT INTO Participant VALUES (DEFAULT,'Kob...	5 row(s) affected Records: 5 Duplicates: 0 Warning...	0.016 sec
✗	6	20:00:28	INSERT INTO sessiondetails VALUES ('S0001','Mor...	Error Code: 1452. Cannot add or update a child row: ...	0.000 sec
✓	7	20:04:02	INSERT INTO conferenceDetails VALUES ('DSC201...	5 row(s) affected Records: 5 Duplicates: 0 Warning...	0.016 sec
✓	8	20:05:23	INSERT INTO sessiondetails VALUES ('S0001','Mor...	5 row(s) affected Records: 5 Duplicates: 0 Warning...	0.016 sec

```
121     -- QUESTIONS
122     -- 1 .Summarise organiser name, conferenceid and the number of participant attend for each
123     -- conference. You output must be sorted by organiser name as ascending order.
124  •  SELECT orgName, conf_id , count(conf_id) ,count(conferenceDetails.participant_id) from organiser INNER JOIN sessiondetails USING(orgID)
125     INNER JOIN conference USING(conf_id) INNER JOIN conferenceDetails USING(conf_id)
126     INNER JOIN participant USING(participant_id)
127     group by orgName ORDER BY Organiser.orgName ASC;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

	orgName	conf_id	count(conf_id)	count(conferenceDetails.participant_id)
▶	Abu	DSC2010	1	1
	Kelvin	DSC2008	2	2
	Siti	IOTC2003	2	2

Result 29 ✕

Output

Action Output

	#	Time	Action	Message
✓	1	22:51:56	SELECT orgName, conf_id , count(conf_id) ,count(conferenceDetails.participant_id) from organiser INNE...	3 row(s) returned

```
130     -- 2. List the company, total fees paid for the conference take place in year 2008, 2010 and 2016.
131 •   SELECT company, sum(fees) AS 'Total Fee Paid'  FROM participant
132     INNER JOIN conferenceDetails USING(participant_id) INNER JOIN conference USING(conf_id)
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

company	Total Fee Paid
Sunny	2000.00
Galaxy	3000.00
CandyCrush	2500.00

Result 41 ✕

Output

Action Output ▼

#	Time	Action	Message
✅	1	23:13:08	SELECT company, sum(fees) AS 'Total Fee Paid' FROM participant INNER JOIN conferenceDetails USI...	3 row(s) returned

```
137     -- 3. Find venue name where more than one conference held at this. You should display venue
138     -- name, no_of_conference and total fees paid.
139 •   SELECT venue_name, COUNT(conf_id) AS 'no_of_conference', SUM(fees) AS 'total fees paid'  FROM Venue INNER JOIN conference USING(venue_id)
140     INNER JOIN conferenceDetails USING(conf_id) INNER JOIN participant USING(participant_id)
141     GROUP BY venue_name HAVING COUNT(conf_id) > 1;
142
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

venue_name	no_of_conference	total fees paid
Dire	3	7000.00

Result 14 ✕

Output

Action Output ▼

#	Time	Action	Message
✅	1	22:48:51	SELECT venue_name, COUNT(conf_id) AS 'no_of_conference', SUM(fees) AS 'total fees paid' FROM ...	1 row(s) returned

```
141     -- 4. Display conferenceid, conference name, conference year and no of session held for all
142     -- conferences organised by organiser with id 100 for conference year 2003 and 2015. Your ouput
143     -- must group by conference id, conference name and conference year.
144 •   SELECT conf_id, conf_name,conf_year, COUNT(sessionid) AS 'No of Session' FROM conference
145     INNER JOIN sessiondetails USING (conf_id) INNER JOIN Organiser USING(orgID)
146     WHERE orgID = 100 AND conf_year IN (2003,2015)
147     GROUP BY conf_id, conf_name, conf_year;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

conf_id	conf_name	conf_year	No of Session
DSC2015	John	2015	1
IOTC2003	Abu	2003	1

Result 27 ✕

Output

Action Output ▼

#	Time	Action	Message
✅	1	23:24:04	SELECT conf_id, conf_name,conf_year, COUNT(sessionid) AS 'No of Session' FROM conference INNE...	2 row(s) returned

```
150        -- 5. Find the conference id, conference name and maximum fees paid by participants who attend
151        -- the conference for conference code DSC2010 and IOTC2016. You should use INNER JOIN clause
152        -- and USING clause for producing the output for this query.
153 ●      SELECT conf_id, conf_name , max(fees) AS MaxFeesPaid
154        FROM conference INNER JOIN conferencedetails USING (conf_id)
155        WHERE conf_id = 'DSC2010' or conf_id = 'IOTC2016'
156        ORDER BY conf_id;
```

| Result Grid | | Filter Rows: | Export: | Wrap Cell Content: |

	conf_id	conf_name	MaxFeesPaid
▶	DSC2010	Iris	3000.00

Result 8 ✕

Output

Action Output ▼

	#	Time	Action	Message
✅	1	17:29:29	SELECT conf_id, conf_name , max(fees) AS MaxFeesPaid FROM conference INNER JOIN conferenced...	1 row(s) returned

```
159        -- 6. Display participant id, participant name, no of frequent he/she attending the conference that
160        -- organised at Kuala Lumpur, Langkawi and Penang. Sort you result by no of frequent as
161        -- descending order.
162 ●      SELECT participant_id, name, count(conf_id) AS noOfRequest
163        FROM participant INNER JOIN conferenceDetails USING (participant_id)
164        INNER JOIN conference USING (conf_id) INNER JOIN venue USING (venue_id)
165        WHERE state in('Kuala Lumpur','Penang','Langkawi')
166        GROUP BY state,city
167        ORDER BY noOfRequest;
...
```

| Result Grid | | Filter Rows: | Export: | Wrap Cell Content: |

	participant_id	name	noOfRequest
▶	10005	Daniel	1

Result 21 ✕

Output

Action Output ▼

	#	Time	Action	Message
✅	1	17:49:05	SELECT participant_id, name, count(conf_id) AS noOfRequest FROM participant INNER JOIN conferen...	1 row(s) returned