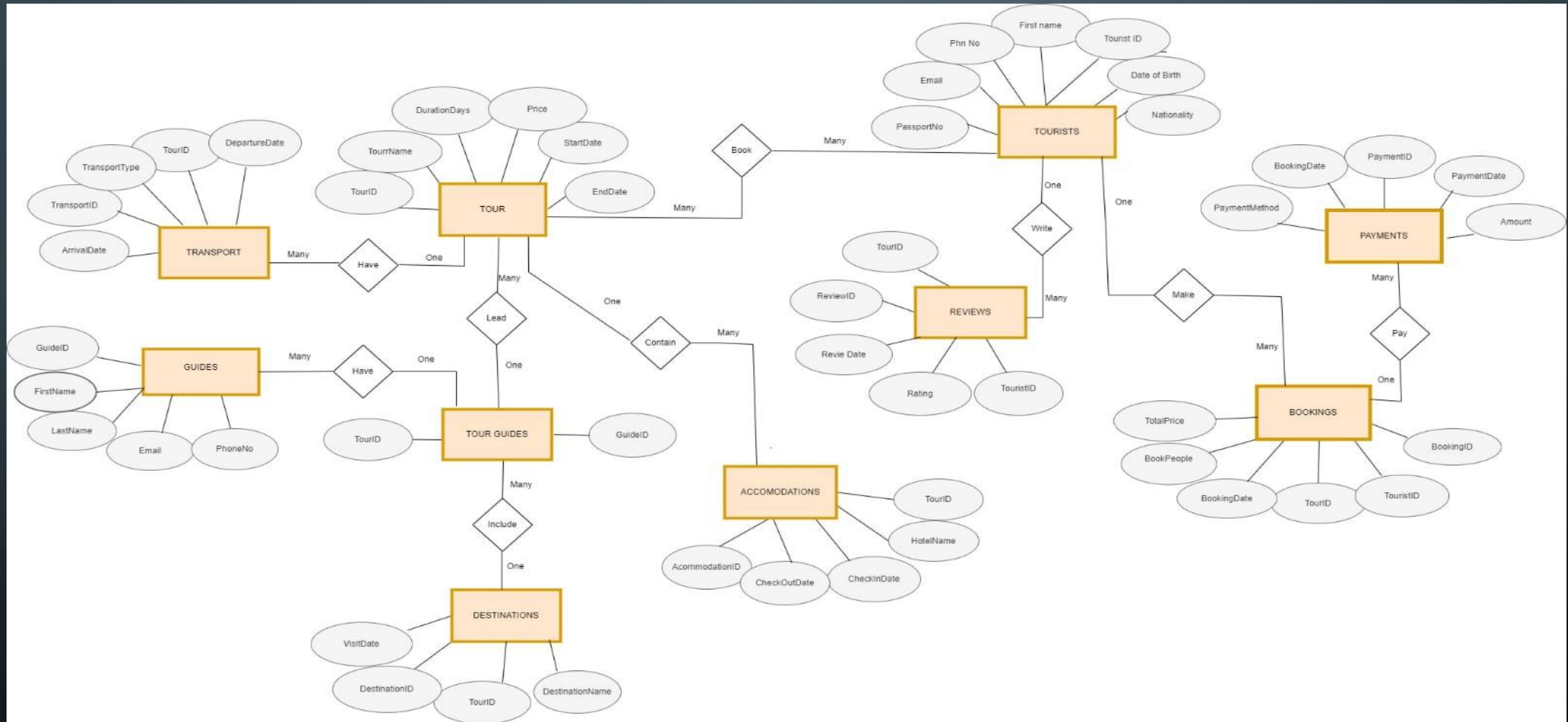# SINDH MADRESSATUL ISLAM UNIVERSITY

TOPIC NAME: TOURISM MANAGEMENT

DEPARTMENT OF SOFTWARE ENGINEERING

GROUP MEMBERS:

AQSA HANIF (BSE-23F-138)

HADIYA MUNIR (BSE-23F-147)

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ER MODEL OF TOURISM MANAGEMENT:

WHAT IS TOURISM MANAGEMENT AND HOW IT WORKS:

TOURISM MANAGEMENT:
Tourism management involves overseeing and organizing various aspects of the tourism industry, such as planning, marketing, operations, and customer service. It focuses on managing destinations, attractions, accommodations, transportation, and activities to ensure a positive experience for travelers.

HOW IT WORKS:
In tourism management, businesses use databases to keep track of all the important information like customer details, bookings, accommodations, and attractions. These databases help in organizing data efficiently and making it easier to access when needed. Additionally, tourism management databases allow businesses to run queries to extract specific data such as customer preferences, popular destinations, revenue reports, and booking patterns.

CONTRIBUTION OF EACH MEMBER:

MUTAIBA ALI:

```sql
159    -- Query 1: Selects the first name, last name, and email of tourists who have booked TourID 1.
160  ● SELECT T.FirstName, T.LastName, T.Email
161    FROM Tourists T
162    JOIN Bookings B ON T.TouristID = B.TouristID
163    WHERE B.TourID = 1;
164
165    -- Query 2: Calculates the total revenue generated from TourID 1.
166  ● SELECT SUM(B.TotalPrice) AS TotalRevenue
167    FROM Bookings B
168    WHERE B.TourID = 1;
169
170    -- Query 3: Retrieves the name and average rating of each tour.
171  ● SELECT TourName, AVG(Rating) AS AverageRating
172    FROM Tours T
173    JOIN Reviews R ON T.TourID = R.TourID
174    GROUP BY T.TourID, T.TourName;
175
176    -- Query 4: Selects the first name, last name, and email of guides assigned to TourID 1.
177  ● SELECT G.FirstName, G.LastName, G.Email
178    FROM Guides G
179    JOIN TourGuides TG ON G.GuideID = TG.GuideID
180    WHERE TG.TourID = 1;
181
182    -- Query 5: Retrieves details of the booking with BookingID 1, including tourist information.
183  ● SELECT B.BookingID, B.BookingDate, B.NumberOfPeople, B.TotalPrice, T.FirstName, T.LastName
184    FROM Bookings B
185    JOIN Tourists T ON B.TouristID = T.TouristID
186    WHERE B.BookingID = 1;
187
```

```sql
188    -- Query 6: Selects the distinct tour names that have a perfect rating of 5.
189  ● SELECT DISTINCT T.TourName
190    FROM Tours T
191    JOIN Reviews R ON T.TourID = R.TourID
192    WHERE R.Rating = 5;
193
194    -- Query 7: Retrieves details of destinations associated with TourID 1.
195  ● SELECT D.DestinationName, D.VisitDate, D.Description
196    FROM Destinations D
197    WHERE D.TourID = 1;
198
199    -- Query 8: Counts the number of bookings each tourist has made.
200  ● SELECT T.TouristID, T.FirstName, T.LastName, COUNT(B.BookingID) AS NumberOfBookings
201    FROM Tourists T
202    JOIN Bookings B ON T.TouristID = B.TouristID
203    GROUP BY T.TouristID, T.FirstName, T.LastName;
204
205    -- Query 9: Sums the total amount paid by each tourist.
206  ● SELECT T.TouristID, T.FirstName, T.LastName, SUM(P.Amount) AS TotalAmountPaid
207    FROM Tourists T
208    JOIN Bookings B ON T.TouristID = B.TouristID
209    JOIN Payments P ON B.BookingID = P.BookingID
210    GROUP BY T.TouristID, T.FirstName, T.LastName;
211
212    -- Query 10: Retrieves the names of tours and their assigned guides.
213  ● SELECT T.TourName, G.FirstName, G.LastName
214    FROM Tours T
215    JOIN TourGuides TG ON T.TourID = TG.TourID
216    JOIN Guides G ON TG.GuideID = G.GuideID;
```

```sql
218    -- Query 11: Selects the tour with the highest average rating.
219  • SELECT T.TourName, AVG(R.Rating) AS AverageRating
220    FROM Tours T
221    JOIN Reviews R ON T.TourID = R.TourID
222    GROUP BY T.TourID, T.TourName
223    ORDER BY AverageRating DESC
224    LIMIT 1;
225
226    -- Query 12: Calculates the total revenue from all bookings.
227  • SELECT SUM(TotalPrice) AS TotalRevenue
228    FROM Bookings;
229
230    -- Query 13: Counts the number of tourists for each tour.
231  • SELECT T.TourName, COUNT(B.BookingID) AS NumberOfTourists
232    FROM Tours T
233    JOIN Bookings B ON T.TourID = B.TourID
234    GROUP BY T.TourID, T.TourName;
235
236    -- Query 14: Counts the number of bookings each tourist has made, filtering to those with more than one booking.
237  • SELECT T.FirstName, T.LastName, COUNT(B.BookingID) AS NumberOfBookings
238    FROM Tourists T
239    JOIN Bookings B ON T.TouristID = B.TouristID
240    GROUP BY T.TouristID, T.FirstName, T.LastName
241    HAVING COUNT(B.BookingID) > 1;
242
243    -- Query 15: Selects reviews for TourID 1 along with the first name and last name of the tourists who wrote them.
244  • SELECT T.FirstName, T.LastName, R.Rating, R.Comment
245    FROM Reviews R
246    JOIN Tourists T ON R.TouristID = T.TouristID
247    WHERE R.TourID = 1;
```

```sql
248
249    -- Query 16: Calculates the average amount paid in all payments.
250  • SELECT AVG(P.Amount) AS AverageAmountPaid
251    FROM Payments P;
252
253    -- Query 17: Retrieves the names and start dates of tours starting in June.
254  • SELECT TourName, StartDate
255    FROM Tours
256    WHERE MONTH(StartDate) = 6;
257
258    -- Query 18: Selects the first name, last name, and nationality of tourists who are from the USA.
259  • SELECT FirstName, LastName, Nationality
260    FROM Tourists
261    WHERE Nationality = 'USA';
262
263    -- Query 19: Updates the phone number of the tourist with TouristID 1.
264  • UPDATE Tourists
265    SET PhoneNumber = '1234567899'
266    WHERE TouristID = 1;
267
268    -- Query 20: Updates the price of the tour with TourID 1.
269  • UPDATE Tours
270    SET Price = 1800.00
271    WHERE TourID = 1;
272
```

AQSA HANIF:


```sql
272
273    -- Query 21: Updates the description of the destination with DestinationID 1.
274  • UPDATE Destinations
275    SET Description = 'A breathtaking park with a wide variety of wildlife.'
276    WHERE DestinationID = 1;
277
278    -- Query 22: Updates the comment of the review with ReviewID 1.
279  • UPDATE Reviews
280    SET Comment = 'Amazing experience! Highly recommend.'
281    WHERE ReviewID = 1;
282
283    -- Query 23: Selects all tours that have a duration greater than 5 days and a price less than $2000.
284  • SELECT * FROM Tours
285    WHERE DurationDays > 5 AND Price < 2000.00;
286
287    -- Query 24: Selects all bookings where the number of people is greater than 2.
288  • SELECT * FROM Bookings
289    WHERE NumberOfPeople > 2;
290
291    -- Query 25: Selects all reviews with a rating of 4 or higher.
292  • SELECT * FROM Reviews
293    WHERE Rating >= 4;
294
295    -- Query 26: Selects all payments made by credit card or PayPal.
296  • SELECT * FROM Payments
297    WHERE PaymentMethod = 'Credit Card' OR PaymentMethod = 'PayPal';
298
```

```sql
298
299    -- Query 27: Selects all accommodations with a checkout date after July 7, 2024.
300  • SELECT * FROM Accommodations
301    WHERE CheckOutDate > '2024-07-07';
302
303    -- Query 28: Selects all flights departing between July 1, 2024, and July 31, 2024.
304  • SELECT * FROM Transport
305    WHERE TransportType = 'Flight' AND DepartureDate BETWEEN '2024-07-01' AND '2024-07-31';
306
307    -- Query 29: Selects all tourists who are from the USA or the UK.
308  • SELECT * FROM Tourists
309    WHERE Nationality = 'USA' OR Nationality = 'British';
310
311    -- Query 30: Counts the number of reviews each tourist has written.
312  • SELECT T.TouristID, T.FirstName, T.LastName, COUNT(R.ReviewID) AS NumberOfReviews
313    FROM Tourists T
314    JOIN Reviews R ON T.TouristID = R.TouristID
315    GROUP BY T.TouristID, T.FirstName, T.LastName;
316
317    -- Query 31: Sums the total number of people for each tour and selects the tour with the most people.
318  • SELECT T.TourName, SUM(B.NumberOfPeople) AS TotalPeople
319    FROM Tours T
320    JOIN Bookings B ON T.TourID = B.TourID
321    GROUP BY T.TourID, T.TourName
322    ORDER BY TotalPeople DESC
323    LIMIT 1;
```

```sql
325     -- Query 32: Counts the number of destinations for each tour.
326  •  SELECT T.TourName, COUNT(D.DestinationID) AS NumberOfDestinations
327     FROM Tours T
328     JOIN Destinations D ON T.TourID = D.TourID
329     GROUP BY T.TourID, T.TourName;
330
331     -- Query 33: Selects the most expensive tour.
332  •  SELECT TourName, Price
333     FROM Tours
334     ORDER BY Price DESC
335     LIMIT 1;
336
337     -- Query 34: Selects the first name and last name of tourists who have not written any reviews.
338  •  SELECT T.FirstName, T.LastName
339     FROM Tourists T
340     LEFT JOIN Reviews R ON T.TouristID = R.TouristID
341     WHERE R.ReviewID IS NULL;
342
343     -- Query 35: Calculates the average number of people per booking.
344  •  SELECT AVG(NumberOfPeople) AS AverageNumberOfPeople
345     FROM Bookings;
346
347     -- Query 36: Selects the shortest tour by duration.
348  •  SELECT TourName, DurationDays
349     FROM Tours
350     ORDER BY DurationDays ASC
351     LIMIT 1;
```

```sql
353     -- Query 37: Selects tourists and their booking dates for bookings made between April 1, 2024, and May 1, 2024.
354  •  SELECT T.FirstName, T.LastName, B.BookingDate
355     FROM Tourists T
356     JOIN Bookings B ON T.TouristID = B.TouristID
357     WHERE B.BookingDate BETWEEN '2024-04-01' AND '2024-05-01';
358
359     -- Query 38: Sums the total amount paid for each tour.
360  •  SELECT T.TourName, SUM(P.Amount) AS TotalAmountPaid
361     FROM Tours T
362     JOIN Bookings B ON T.TourID = B.TourID
363     JOIN Payments P ON B.BookingID = P.BookingID
364     GROUP BY T.TourID, T.TourName;
365
366     -- Query 39: Selects the first name, last name, and the number of tours each guide is assigned to, filtering to those with more than one tour.
367  •  SELECT G.FirstName, G.LastName, COUNT(TG.TourID) AS NumberOfTours
368     FROM Guides G
369     JOIN TourGuides TG ON G.GuideID = TG.GuideID
370     GROUP BY G.GuideID, G.FirstName, G.LastName
371     HAVING COUNT(TG.TourID) > 1;
372
373     -- Query 40: Retrieves booking and payment details, including the payment method.
374  •  SELECT B.BookingID, B.BookingDate, P.PaymentDate, P.Amount, P.PaymentMethod
375     FROM Bookings B
376     JOIN Payments P ON B.BookingID = P.BookingID;
```

HADIYA MUNIR:

```sql
377
378    -- Query 41: Calculates the average rating for each tour.
379    SELECT T.TourName, AVG(R.Rating) AS AverageRating
380    FROM Tours T
381    JOIN Reviews R ON T.TourID = R.TourID
382    GROUP BY T.TourID, T.TourName;
383
384    -- Query 42: Selects the start and end dates of all tours.
385    SELECT TourName, StartDate, EndDate
386    FROM Tours;
387
388    -- Query 43: Counts the number of bookings for each month.
389    SELECT MONTH(BookingDate) AS BookingMonth, COUNT(BookingID) AS NumberOfBookings
390    FROM Bookings
391    GROUP BY BookingMonth;
392
393    -- Query 44: Selects guides who are not assigned to any tours.
394    SELECT G.FirstName, G.LastName
395    FROM Guides G
396    LEFT JOIN TourGuides TG ON G.GuideID = TG.GuideID
397    WHERE TG.TourID IS NULL;
398
399    -- Query 45: Counts the number of reviews each tour has received.
400    SELECT T.TourName, COUNT(R.ReviewID) AS NumberOfReviews
401    FROM Tours T
402    JOIN Reviews R ON T.TourID = R.TourID
403    GROUP BY T.TourID, T.TourName;
404
```

```sql
404
405    -- Query 46: Counts the number of distinct tours each tourist has booked, filtering to those with more than one tour.
406    SELECT T.FirstName, T.LastName, COUNT(DISTINCT B.TourID) AS NumberOfTours
407    FROM Tourists T
408    JOIN Bookings B ON T.TouristID = B.TouristID
409    GROUP BY T.TouristID, T.FirstName, T.LastName
410    HAVING COUNT(DISTINCT B.TourID) > 1;
411
412    -- Query 47: Retrieves destination details along with the tour name they belong to.
413    SELECT D.DestinationName, T.TourName, D.VisitDate
414    FROM Destinations D
415    JOIN Tours T ON D.TourID = T.TourID;
416
417    -- Query 48: Calculates the average duration of all tours.
418    SELECT AVG(DurationDays) AS AverageDuration
419    FROM Tours;
420
421    -- Query 49: Counts the number of tourists who have given a rating of 5.
422    SELECT COUNT(DISTINCT R.TouristID) AS NumberOfTourists
423    FROM Reviews R
424    WHERE R.Rating = 5;
425
426    -- Query 50: Retrieves recent bookings (within the last month) along with tourist details.
427    SELECT B.BookingID, B.BookingDate, T.FirstName, T.LastName
428    FROM Bookings B
429    JOIN Tourists T ON B.TouristID = T.TouristID
430    WHERE B.BookingDate > DATE_SUB(CURDATE(), INTERVAL 1 MONTH);
```

```sql
431
432    -- Query 51: Sums the total amount paid for bookings made in the last year.
433  ● SELECT SUM(P.Amount) AS TotalAmountPaid
434    FROM Payments P
435    JOIN Bookings B ON P.BookingID = B.BookingID
436    WHERE B.BookingDate > DATE_SUB(CURDATE(), INTERVAL 1 YEAR);
437
438    -- Query 52: Selects distinct hotel names from accommodations.
439  ● SELECT DISTINCT HotelName
440    FROM Accommodations;
441
442    -- Query 53: Counts the number of tourists from each nationality.
443  ● SELECT Nationality, COUNT(TouristID) AS NumberOfTourists
444    FROM Tourists
445    GROUP BY Nationality;
446
447    -- Query 54: Selects distinct transport types from the transport table.
448  ● SELECT DISTINCT TransportType
449    FROM Transport;
450
451    -- Query 55: Selects the longest tour by duration.
452  ● SELECT TourName, DurationDays, StartDate, EndDate
453    FROM Tours
454    ORDER BY DurationDays DESC
455    LIMIT 1;
456
```

```sql
457    -- Query 56: Selects tours ending in June.
458  ● SELECT TourName, EndDate
459    FROM Tours
460    WHERE MONTH(EndDate) = 6;
461    -- Query 57: Selects the first name, last name, and email of tourists who share a last name with other tourists.
462  ● SELECT FirstName, LastName, Email
463    FROM Tourists
464  ⊖ WHERE LastName IN (
465        SELECT LastName
466        FROM Tourists
467        GROUP BY LastName
468        HAVING COUNT(*) = 1
469    );
470    -- Query 58: Counts the number of bookings made by tourists younger than 30.
471  ● SELECT COUNT(B.BookingID) AS NumberOfBookings
472    FROM Bookings B
473    JOIN Tourists T ON B.TouristID = T.TouristID
474    WHERE YEAR(CURDATE()) - YEAR(T.DateOfBirth) < 30;
475
476    -- Query 59: Counts the number of guides assigned to each tour.
477  ● SELECT T.TourName, COUNT(TG.GuideID) AS NumberOfGuides
478    FROM Tours T
479    JOIN TourGuides TG ON T.TourID = TG.TourID
480    GROUP BY T.TourID, T.TourName;
481
482    -- Query 60: Retrieves the most recent booking details along with tourist information.
483  ● SELECT B.BookingID, B.BookingDate, T.FirstName, T.LastName, B.NumberOfPeople, B.TotalPrice
484    FROM Bookings B
485    JOIN Tourists T ON B.TouristID = T.TouristID
486    ORDER BY B.BookingDate DESC
487    LIMIT 1;
```
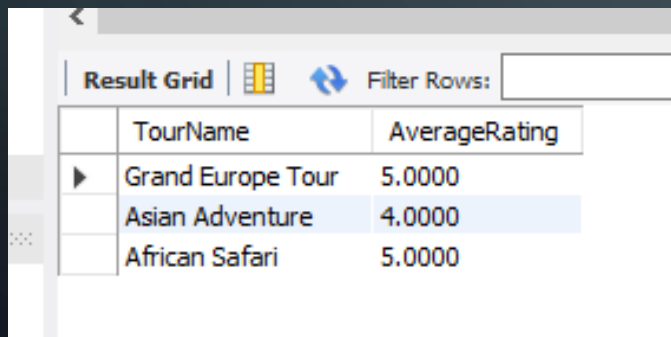
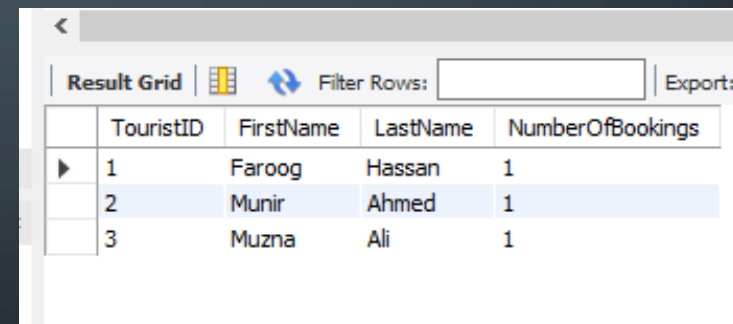# SCHEMA, DATA INSERTION AND QUERIES:

```
170        -- Query 3: Retrieves the name and average rating of each tour.
171 ●     SELECT TourName, AVG(Rating) AS AverageRating
172        FROM Tours T
173        JOIN Reviews R ON T.TourID = R.TourID
174        GROUP BY T.TourID, T.TourName;
175
```

```
99         -- Query 8: Counts the number of bookings each tourist has made.
00 ●      SELECT T.TouristID, T.FirstName, T.LastName, COUNT(B.BookingID) AS NumberOfBookings
01         FROM Tourists T
02         JOIN Bookings B ON T.TouristID = B.TouristID
03         GROUP BY T.TouristID, T.FirstName, T.LastName;
```

OUTPUT:

TourName	AverageRating
Grand Europe Tour	5.0000
Asian Adventure	4.0000
African Safari	5.0000

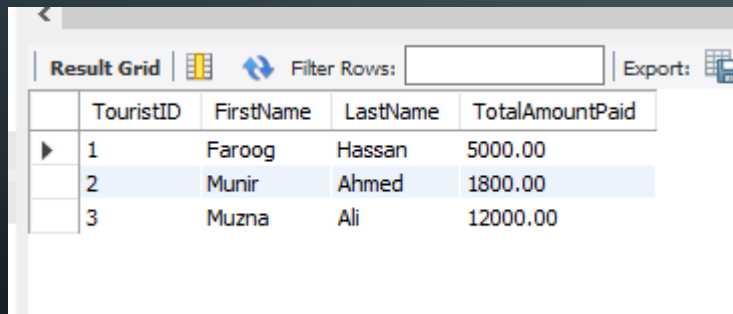| TouristID	FirstName	LastName	NumberOfBookings
1	Faroog	Hassan	1
2	Munir	Ahmed	1
3	Muzna	Ali	1

```
-- Query 9: Sums the total amount paid by each tourist.
SELECT T.TouristID, T.FirstName, T.LastName, SUM(P.Amount) AS TotalAmountPaid
FROM Tourists T
JOIN Bookings B ON T.TouristID = B.TouristID
JOIN Payments P ON B.BookingID = P.BookingID
GROUP BY T.TouristID, T.FirstName, T.LastName;
```
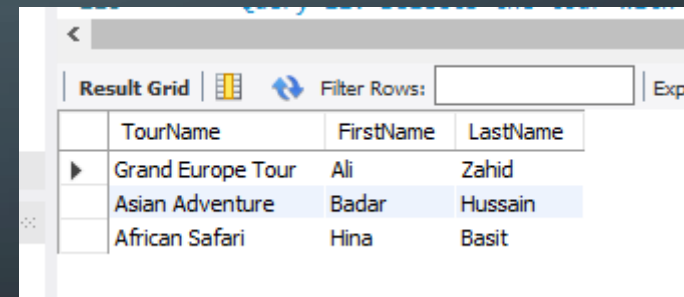
```
-- Query 10: Retrieves the names of tours and their assigned guides.
SELECT T.TourName, G.FirstName, G.LastName
FROM Tours T
JOIN TourGuides TG ON T.TourID = TG.TourID
JOIN Guides G ON TG.GuideID = G.GuideID;
```

OUTPUT:

TouristID	FirstName	LastName	TotalAmountPaid
1	Faroog	Hassan	5000.00
2	Munir	Ahmed	1800.00
3	Muzna	Ali	12000.00

TourName	FirstName	LastName
Grand Europe Tour	Ali	Zahid
Asian Adventure	Badar	Hussain
African Safari	Hina	Basit

```
-- Query 30: Counts the number of reviews each tourist has written.
SELECT T.TouristID, T.FirstName, T.LastName, COUNT(R.ReviewID) AS NumberOfReviews
FROM Tourists T
JOIN Reviews R ON T.TouristID = R.TouristID
GROUP BY T.TouristID, T.FirstName, T.LastName;
```

```
-- Query 33: Selects the most expensive tour.
SELECT TourName, Price
FROM Tours
ORDER BY Price DESC
LIMIT 1;
```

OUTPUT:

TouristID	FirstName	LastName	NumberOfReviews
1	Faroog	Hassan	1
2	Munir	Ahmed	1
3	Muzna	Ali	1

337   -- Query 34: Selects

TourName	Price
African Safari	3000.00

```sql
-- Query 37: Selects tourists and their booking dates for bookings made between April 1, 2024, and May 1, 2024.
SELECT T.FirstName, T.LastName, B.BookingDate
FROM Tourists T
JOIN Bookings B ON T.TouristID = B.TouristID
WHERE B.BookingDate BETWEEN '2024-04-01' AND '2024-05-01';
```

```sql
-- Query 40: Retrieves booking and payment details, including the payment method.
SELECT B.BookingID, B.BookingDate, P.PaymentDate, P.Amount, P.PaymentMethod
FROM Bookings B
JOIN Payments P ON B.BookingID = P.BookingID;
```

OUTPUT:

FirstName	LastName	BookingDate
Faroog	Hassan	2024-04-01
Munir	Ahmed	2024-05-01

BookingID	BookingDate	PaymentDate	Amount	PaymentMethod
1	2024-04-01	2024-04-02	5000.00	Credit Card
2	2024-05-01	2024-05-02	1800.00	PayPal
3	2024-06-01	2024-06-02	12000.00	Bank Transfer

```sql
-- Query 53: Counts the number of tourists from each nationality.
SELECT Nationality, COUNT(TouristID) AS NumberOfTourists
FROM Tourists
GROUP BY Nationality;
```

```sql
-- Query 60: Retrieves the most recent booking details along with tourist information.
SELECT B.BookingID, B.BookingDate, T.FirstName, T.LastName, B.NumberOfPeople, B.TotalPrice
FROM Bookings B
JOIN Tourists T ON B.TouristID = T.TouristID
ORDER BY B.BookingDate DESC
LIMIT 1;
```

OUTPUT:

Nationality	NumberOfTourists
USA	1
Canada	1
UK	1

BookingID	BookingDate	FirstName	LastName	NumberOfPeople	TotalPrice
3	2024-06-01	Muzna	Ali	4	12000.00

THANK YOU!