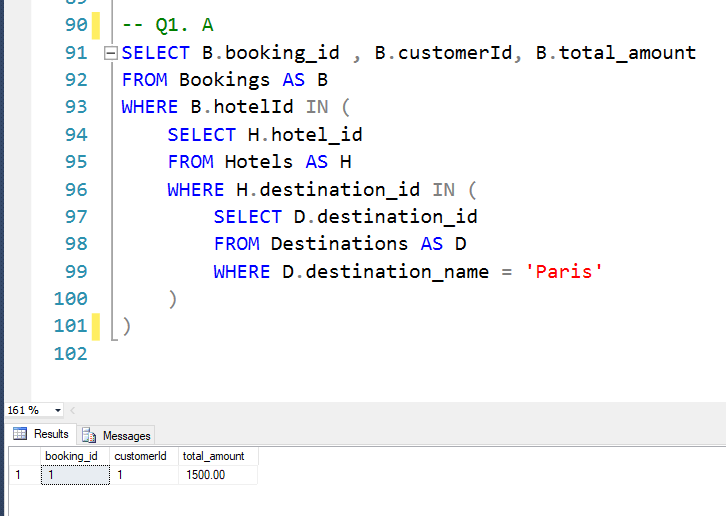
Name: Muhammad Mahad 21L-6195

Q1. (A)



Assuming taking flight is not equal to booking

CODE:

-- Q1. A

SELECT B.booking\_id , B.customerId, B.total\_amount

FROM Bookings AS B

WHERE B.hotelId IN (

SELECT H.hotel\_id

FROM Hotels AS H

WHERE H.destination\_id IN (

SELECT D.destination\_id

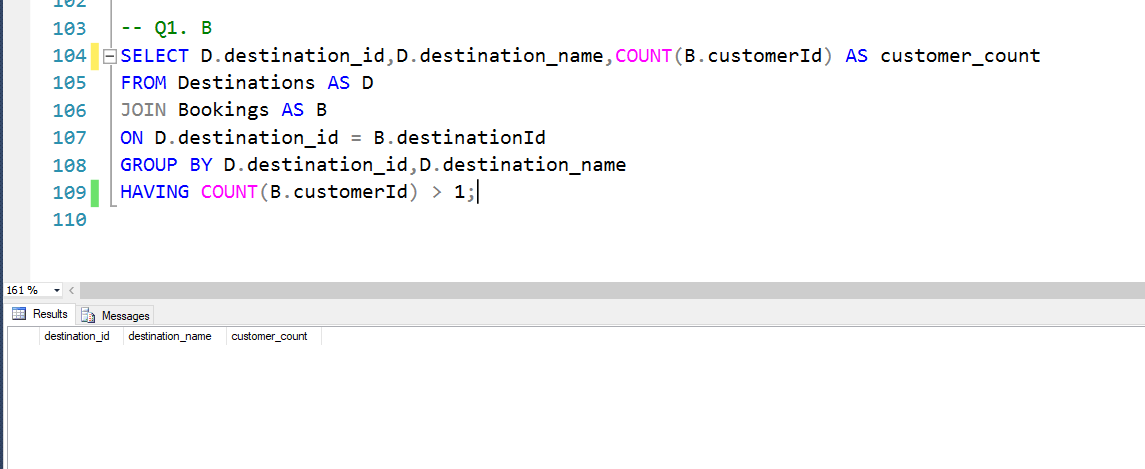
FROM Destinations AS D

WHERE D.destination\_name = 'Paris'

)

)

Q1 . B



Assuming a customer has unique c\_id

CODE:  
SELECT D.destination\_id,D.destination\_name,COUNT(B.customerId) AS customer\_count

FROM Destinations AS D

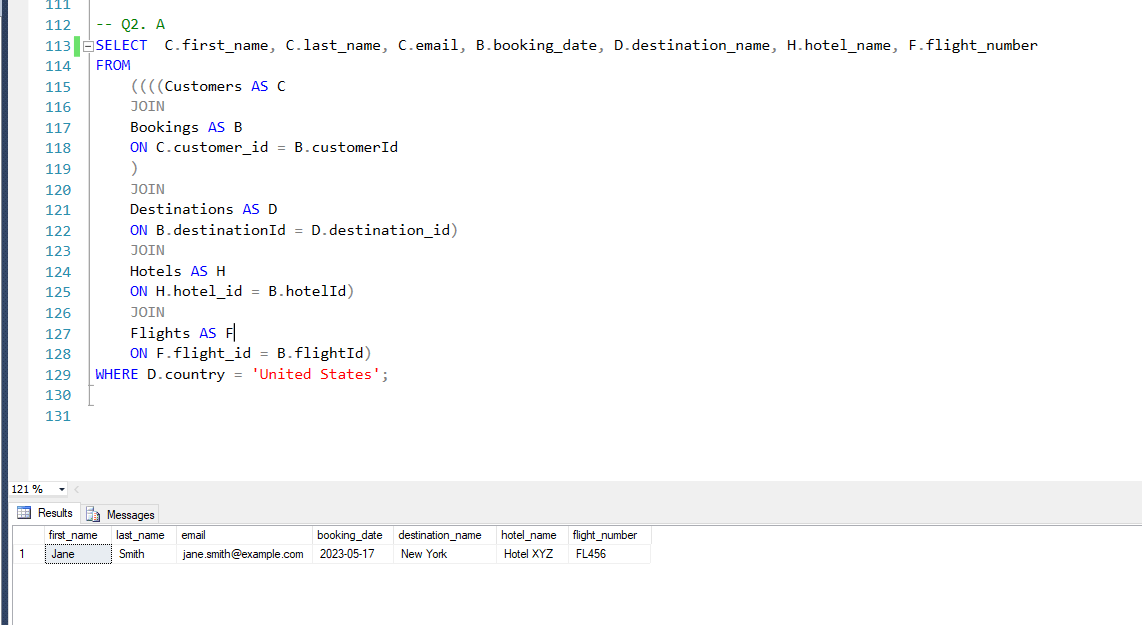
JOIN Bookings AS B

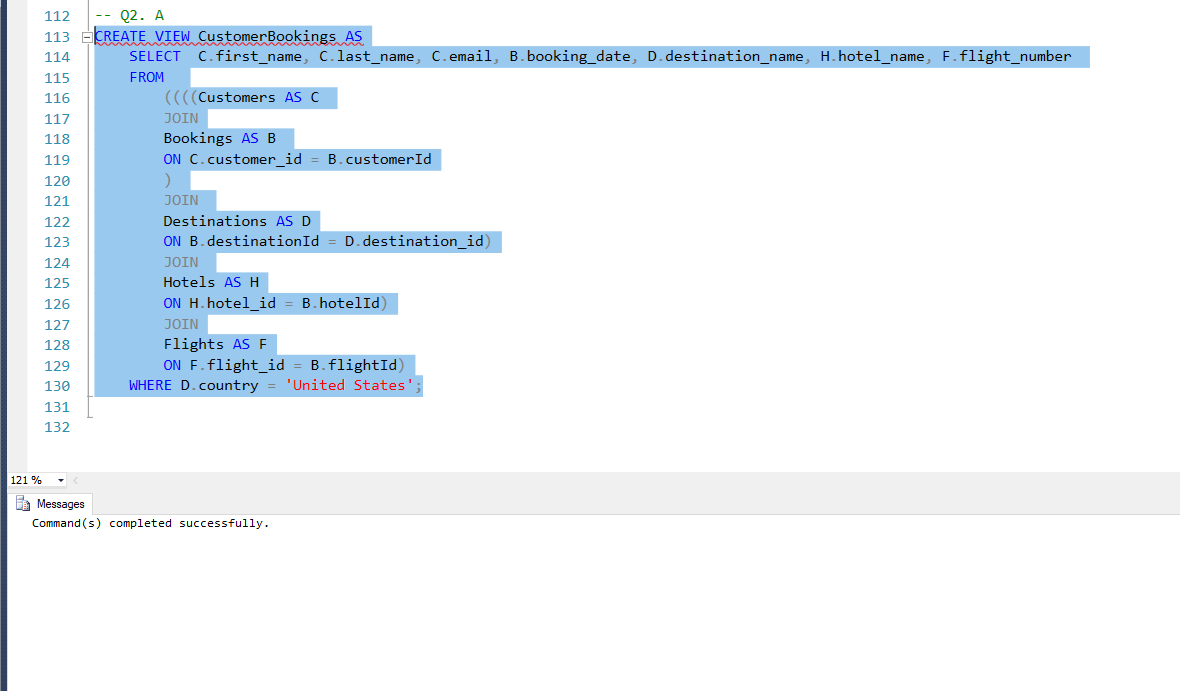
ON D.destination\_id = B.destinationId

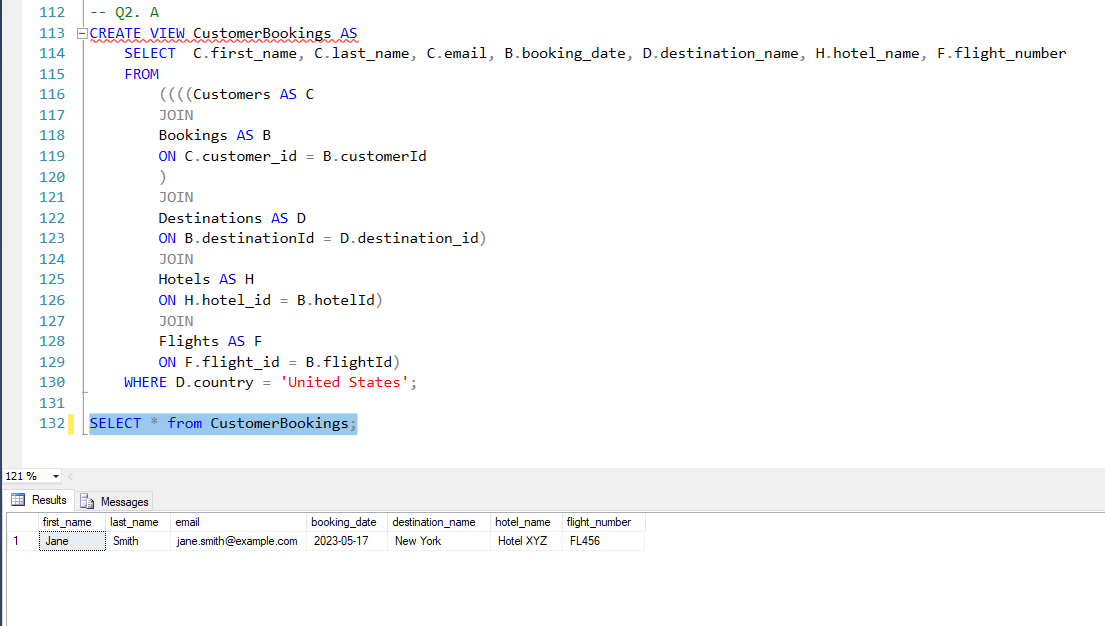
GROUP BY D.destination\_id,D.destination\_name

HAVING COUNT(B.customerId) > 1;

Q2. A.







CODE:

-- Q2. A

CREATE VIEW CustomerBookings AS

SELECT C.first\_name, C.last\_name, C.email, B.booking\_date, D.destination\_name, H.hotel\_name, F.flight\_number

FROM

((((Customers AS C

JOIN

Bookings AS B

ON C.customer\_id = B.customerId

)

JOIN

Destinations AS D

ON B.destinationId = D.destination\_id)

JOIN

Hotels AS H

ON H.hotel\_id = B.hotelId)

JOIN

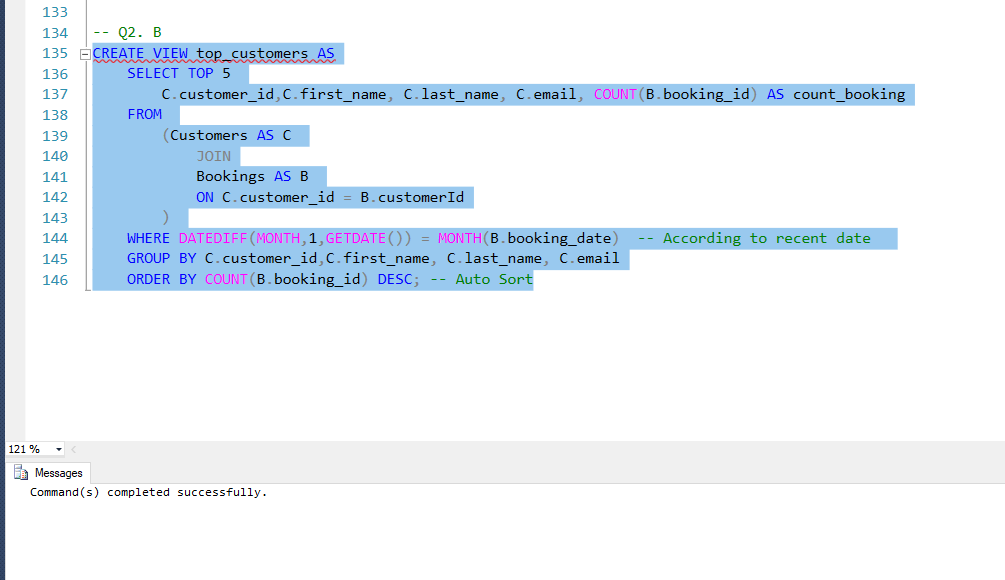
Flights AS F

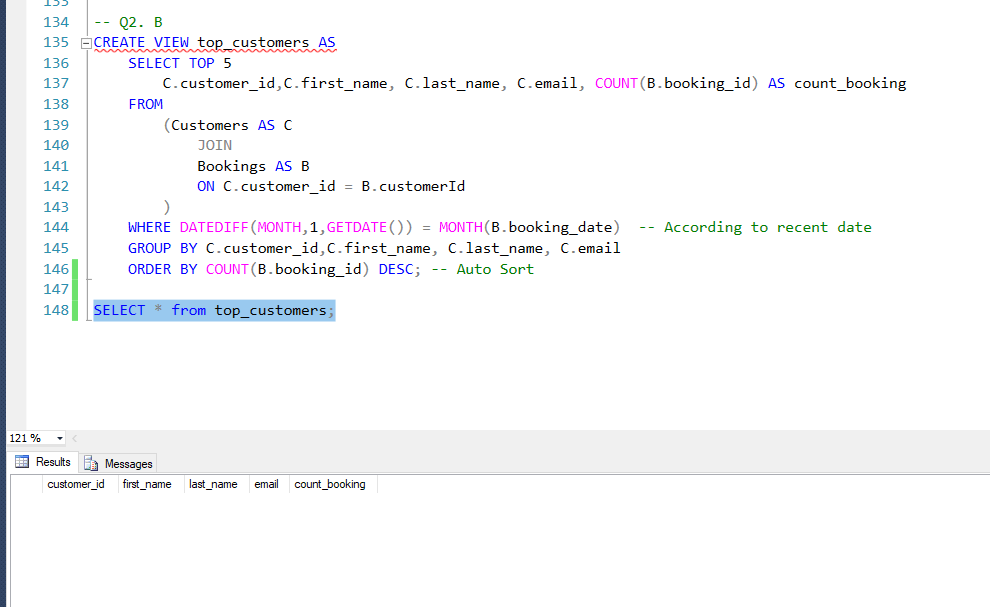
ON F.flight\_id = B.flightId)

WHERE D.country = 'United States';

SELECT \* from CustomerBookings;

Q2. B





The output is according to current date

CODE:

-- Q2. B

CREATE VIEW top\_customers AS

SELECT TOP 5

C.customer\_id,C.first\_name, C.last\_name, C.email, COUNT(B.booking\_id) AS count\_booking

FROM

(Customers AS C

JOIN

Bookings AS B

ON C.customer\_id = B.customerId

)

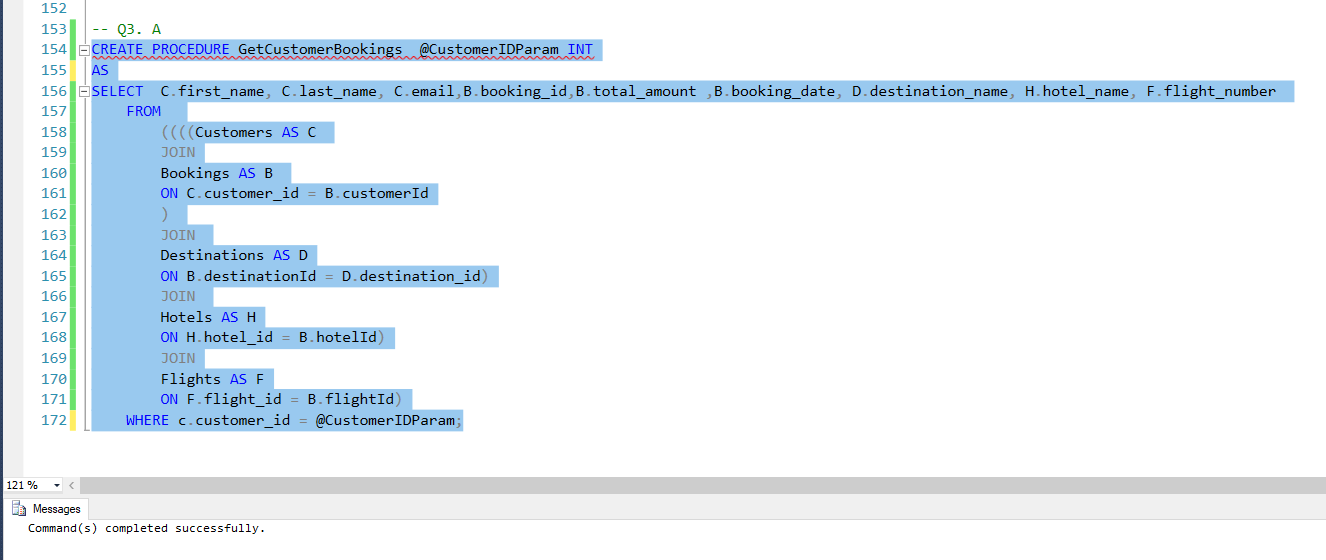
WHERE DATEDIFF(MONTH,1,GETDATE()) = MONTH(B.booking\_date) -- According to recent date

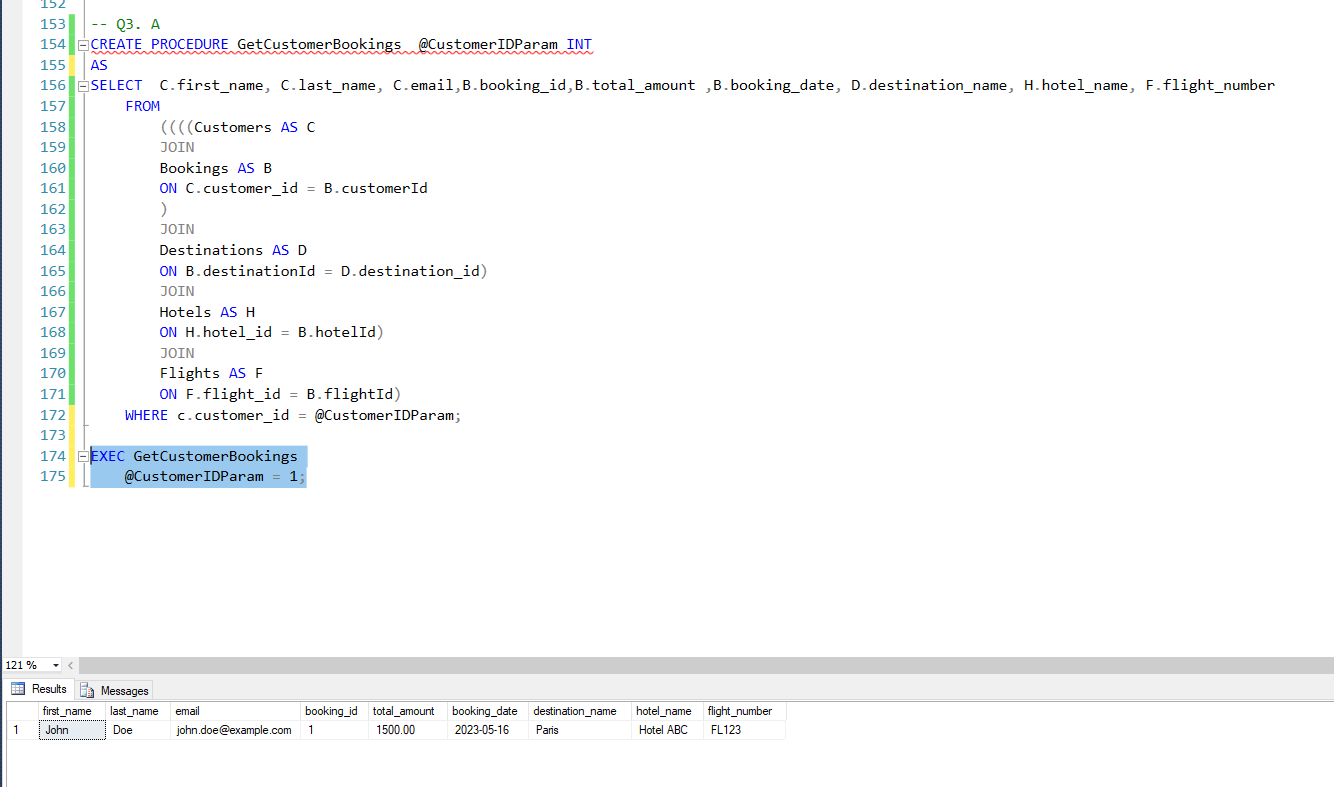
GROUP BY C.customer\_id,C.first\_name, C.last\_name, C.email

ORDER BY COUNT(B.booking\_id) DESC; -- Auto Sort

SELECT \* from top\_customers;

Q3. A





CODE:

-- Q3. A

CREATE PROCEDURE GetCustomerBookings @CustomerIDParam INT

AS

SELECT C.first\_name, C.last\_name, C.email,B.booking\_id,B.total\_amount ,B.booking\_date, D.destination\_name, H.hotel\_name, F.flight\_number

FROM

((((Customers AS C

JOIN

Bookings AS B

ON C.customer\_id = B.customerId

)

JOIN

Destinations AS D

ON B.destinationId = D.destination\_id)

JOIN

Hotels AS H

ON H.hotel\_id = B.hotelId)

JOIN

Flights AS F

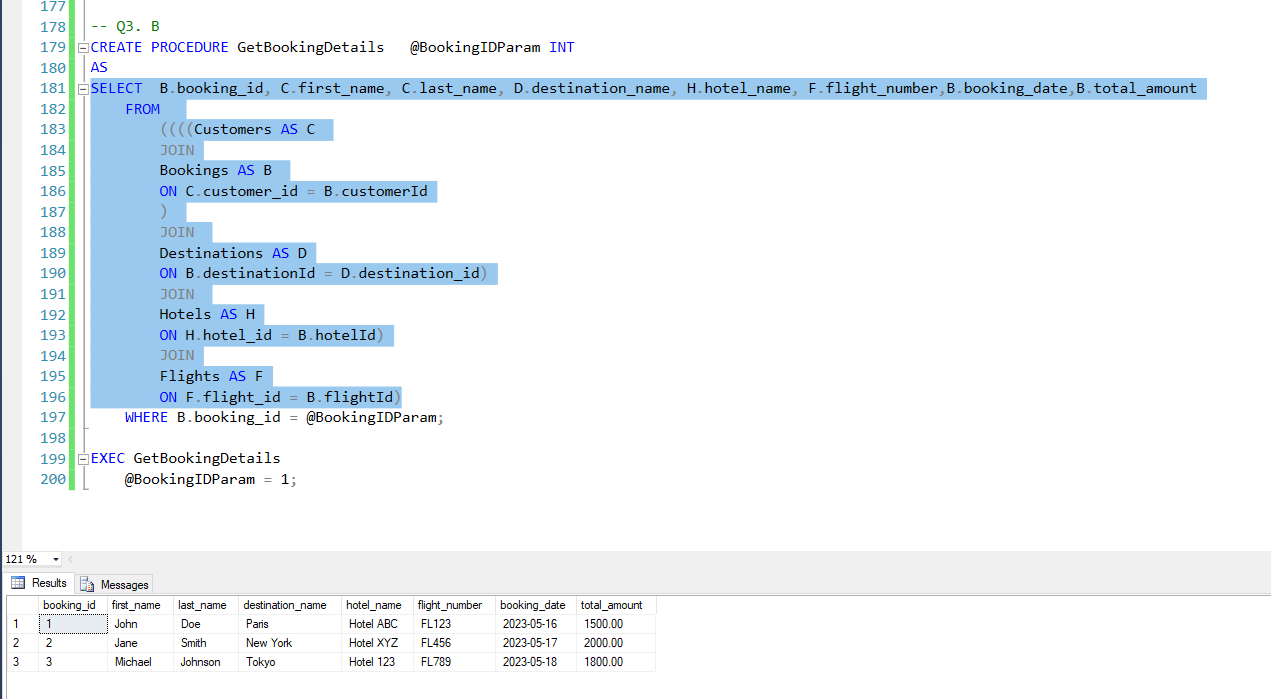
ON F.flight\_id = B.flightId)

WHERE c.customer\_id = @CustomerIDParam;

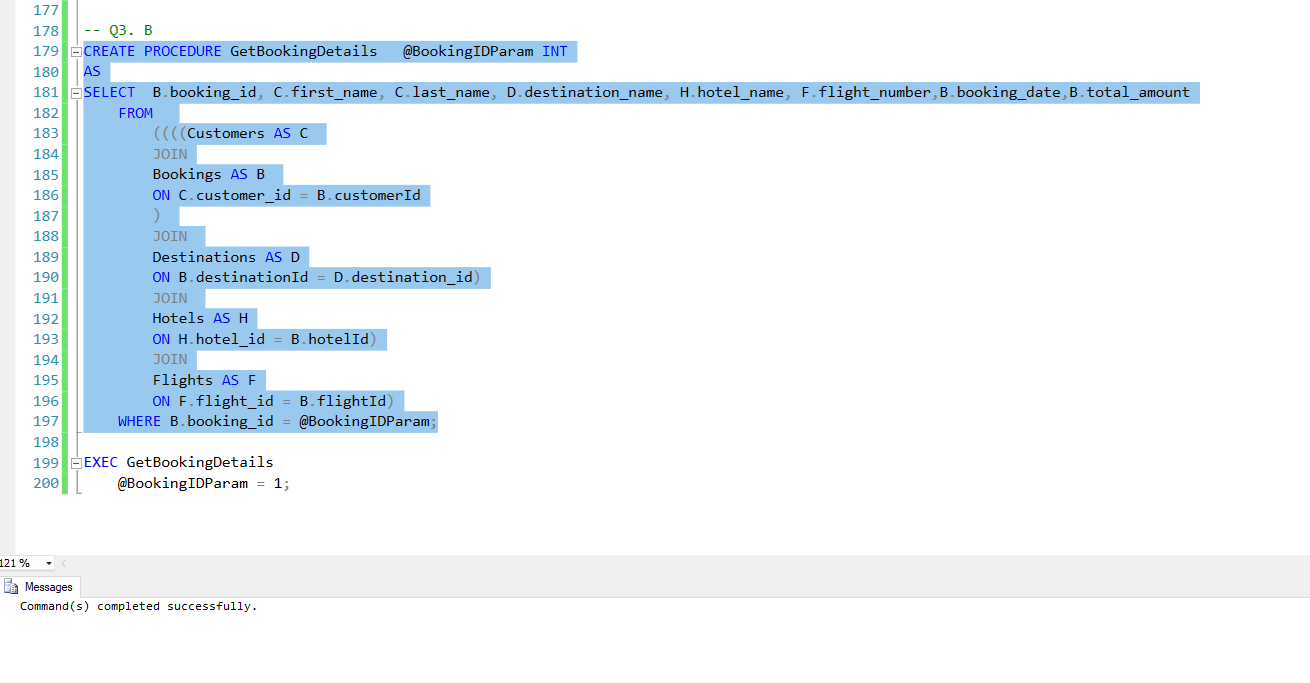
EXEC GetCustomerBookings

@CustomerIDParam = 1;

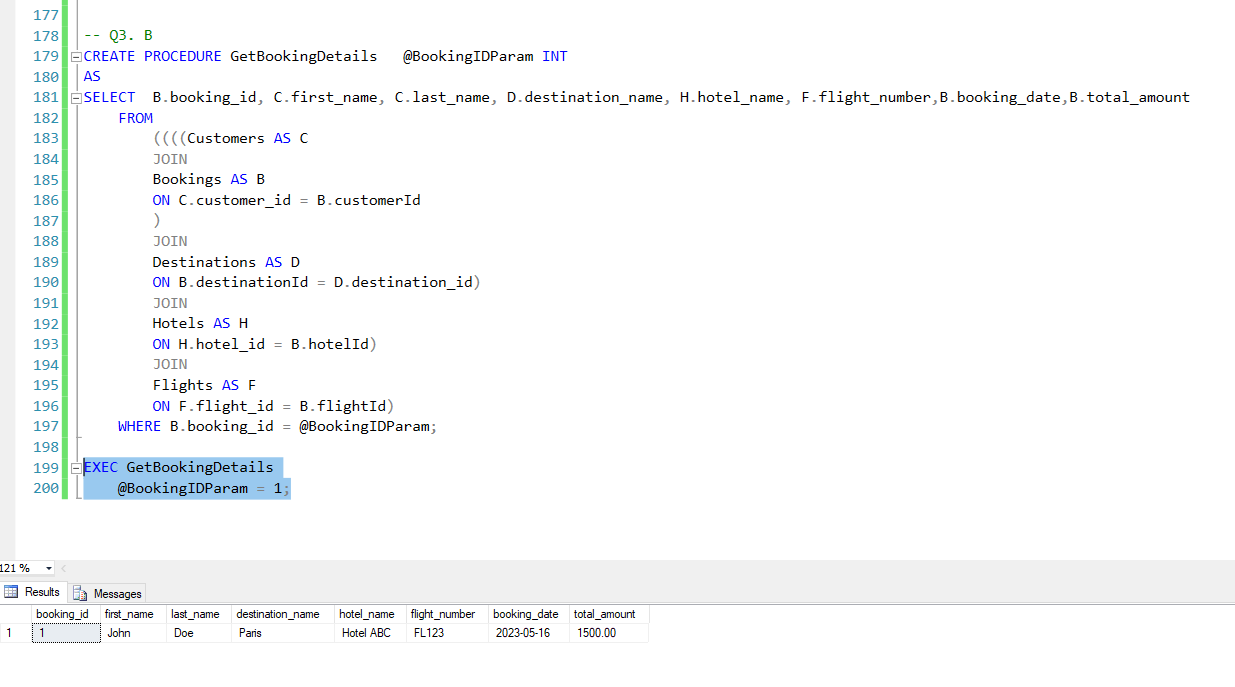
Q3. B

Checking SELECT:  


Executing command:



Checking Procedure:



CODE:  
-- Q3. B

CREATE PROCEDURE GetBookingDetails @BookingIDParam INT

AS

SELECT B.booking\_id, C.first\_name, C.last\_name, D.destination\_name, H.hotel\_name, F.flight\_number,B.booking\_date,B.total\_amount

FROM

((((Customers AS C

JOIN

Bookings AS B

ON C.customer\_id = B.customerId

)

JOIN

Destinations AS D

ON B.destinationId = D.destination\_id)

JOIN

Hotels AS H

ON H.hotel\_id = B.hotelId)

JOIN

Flights AS F

ON F.flight\_id = B.flightId)

WHERE B.booking\_id = @BookingIDParam;

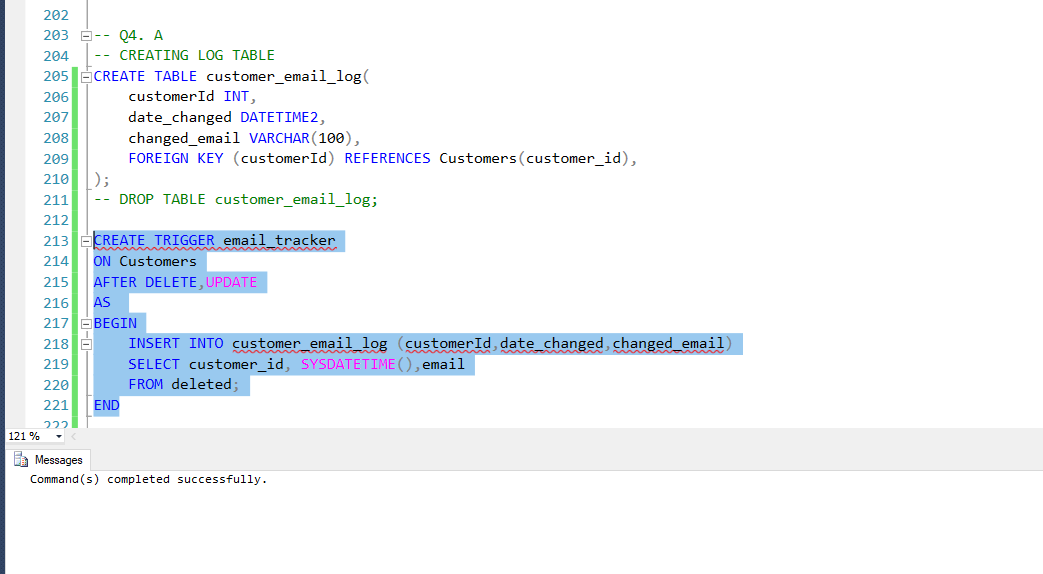
EXEC GetBookingDetails

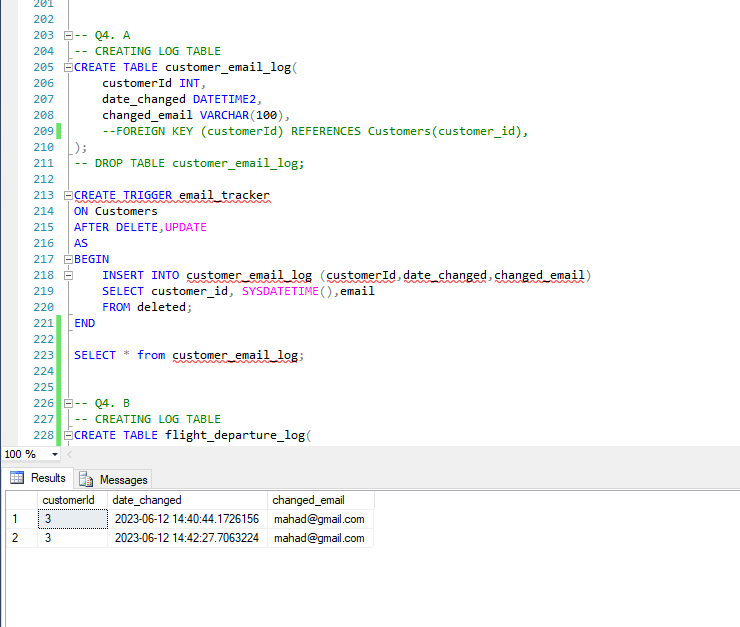
@BookingIDParam = 1;

Q4. A

Ali want to maintain a logbook of the changes made of the customer’s email addresses in customer table.

**Solution**:

* For this we create a separate ***log table*** named **customer\_email\_log**, to keep track of the changes made in the customers email addresses.
* The ***log table*** named **customer\_email\_log** contains **customer\_ID** as **PK**, **date\_changes (datetime datatype)**  and **changes\_email\_address**.
* CREATED TRIGGER:  
  



CODE:

-- Q4. A

-- CREATING LOG TABLE

CREATE TABLE customer\_email\_log(

customerId INT,

date\_changed DATETIME2,

changed\_email VARCHAR(100),

--FOREIGN KEY (customerId) REFERENCES Customers(customer\_id),

);

-- DROP TABLE customer\_email\_log;

CREATE TRIGGER email\_tracker

ON Customers

AFTER DELETE,UPDATE

AS

BEGIN

INSERT INTO customer\_email\_log (customerId,date\_changed,changed\_email)

SELECT customer\_id, SYSDATETIME(),email

FROM deleted;

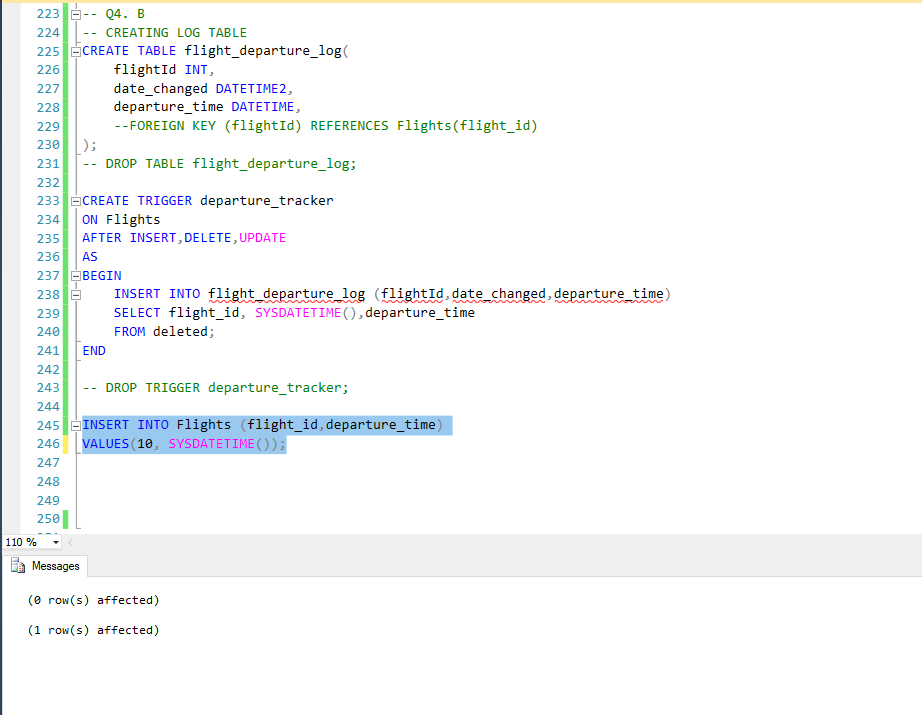
END

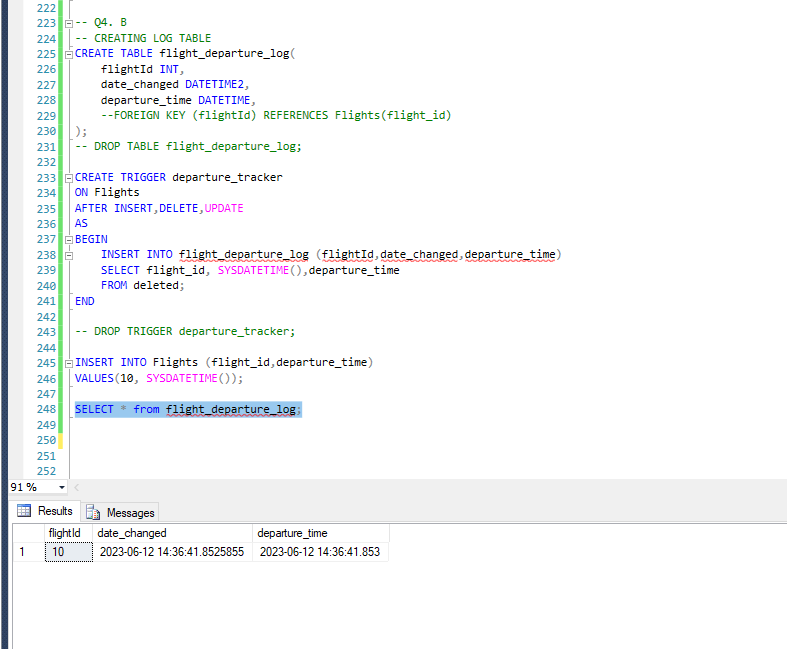
SELECT \* from customer\_email\_log;

Q.4 B

Same solution as Q1

CREATED TRIGGER:





CODE:

-- Q4. B

-- CREATING LOG TABLE

CREATE TABLE flight\_departure\_log(

flightId INT,

date\_changed DATETIME2,

departure\_time DATETIME,

--FOREIGN KEY (flightId) REFERENCES Flights(flight\_id)

);

-- DROP TABLE flight\_departure\_log;

CREATE TRIGGER departure\_tracker

ON Flights

AFTER INSERT,DELETE,UPDATE

AS

BEGIN

INSERT INTO flight\_departure\_log (flightId,date\_changed,departure\_time)

SELECT flight\_id, SYSDATETIME(),departure\_time

FROM deleted;

END

-- DROP TRIGGER departure\_tracker;

INSERT INTO Flights (flight\_id,departure\_time)

VALUES(10, SYSDATETIME());

SELECT \* from flight\_departure\_log;