# Assignment 4

**Task1 Database Design**

Design a SQL schema for a Courier Management System with tables for Customers, Couriers, Orders, and Parcels. Define the relationships between these tables using appropriate foreign keys. [[1]](#footnote-0)Requirements:

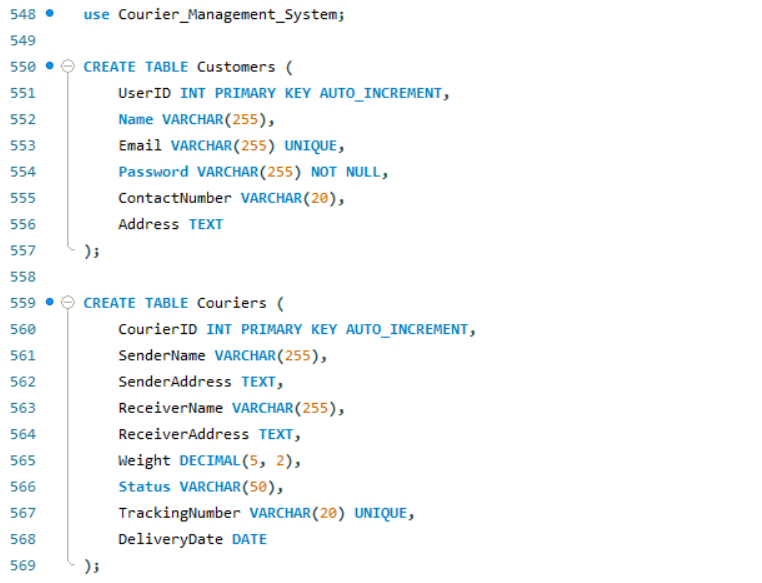
• Define the Database Schema

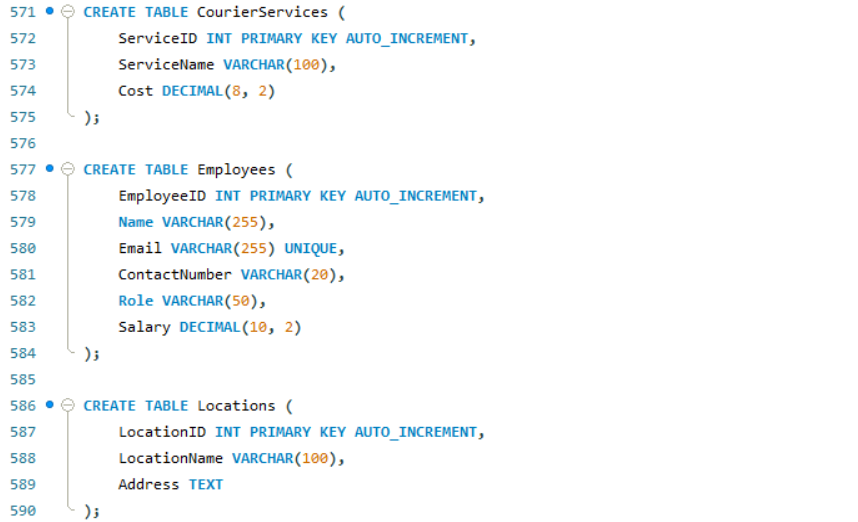
• Create SQL tables for entities such as User, Courier, Employee, Location,Payment

• Define relationships between these tables (one-to-many, many-to-many, etc.).

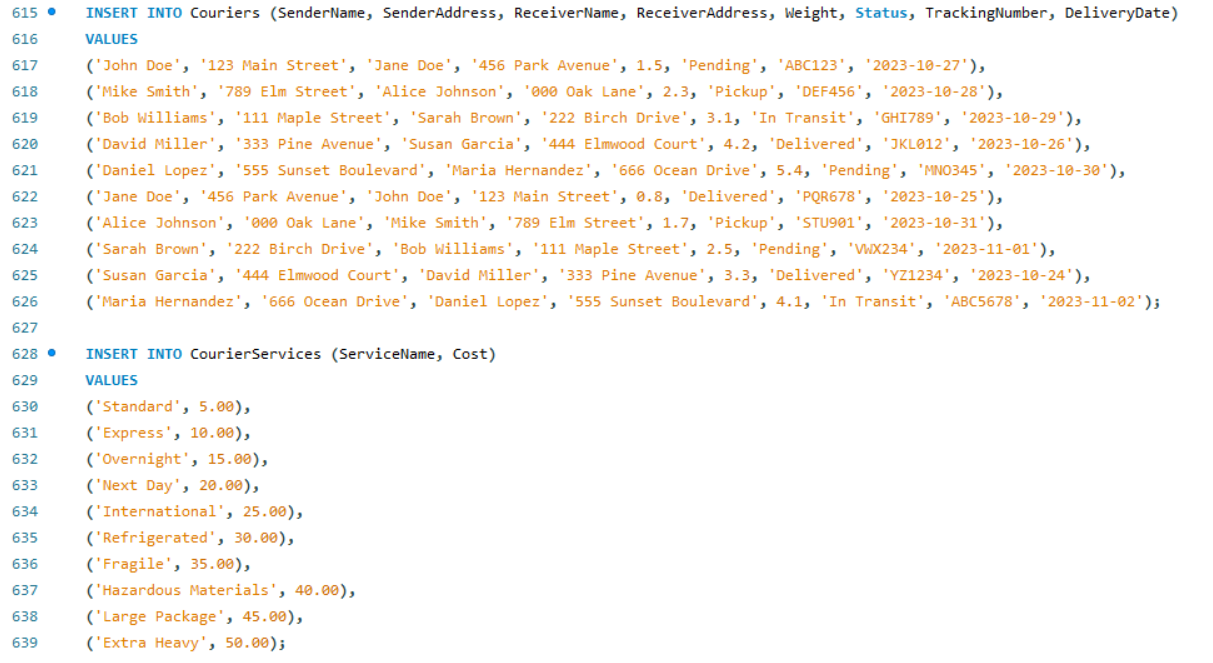
• Populate Sample Data

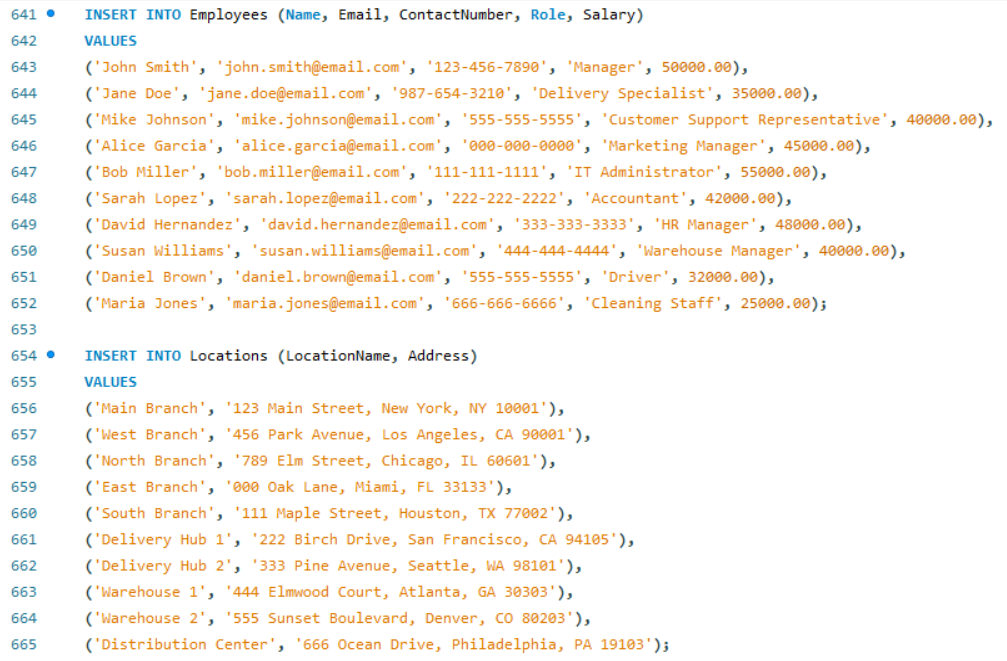
• Insert sample data into the tables to simulate real-world scenarios.

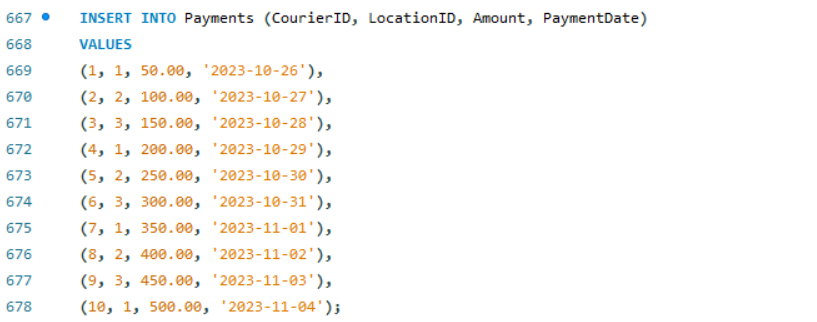






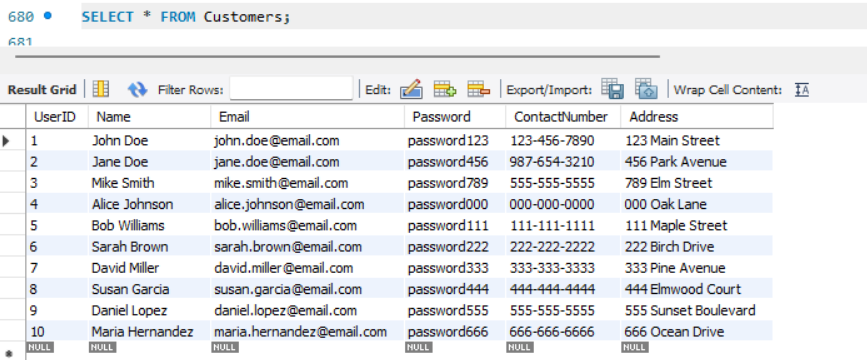






**Task 2: Select,Where Solve the following queries in the Schema that you have created above**

1. List all customers:

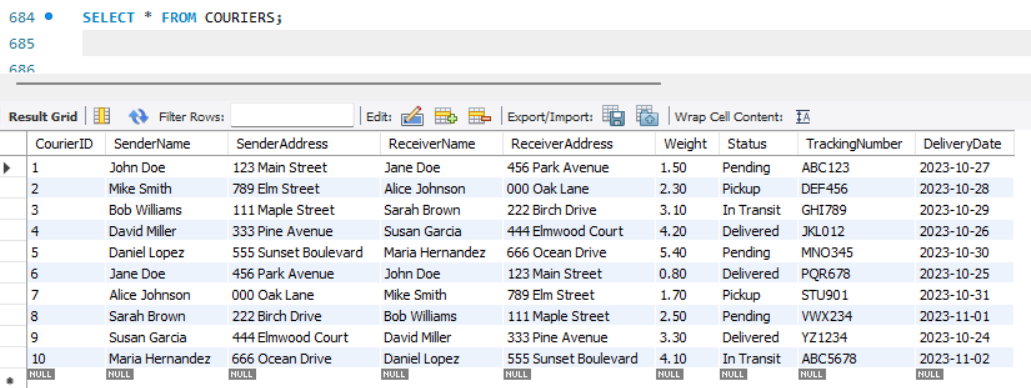


1. List all orders for a specific customer:

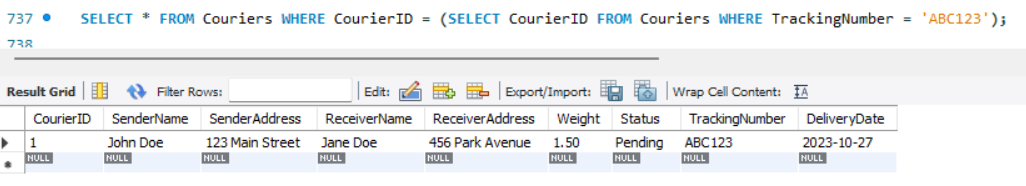
A screenshot of a computer

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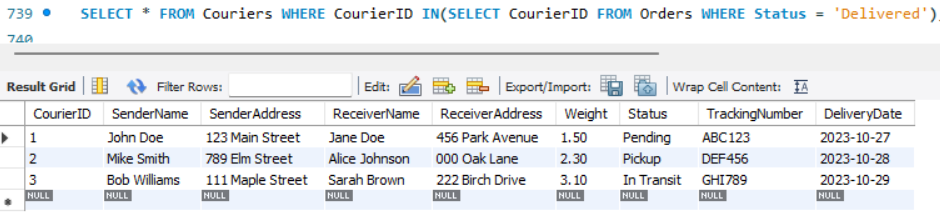
1. List all couriers:



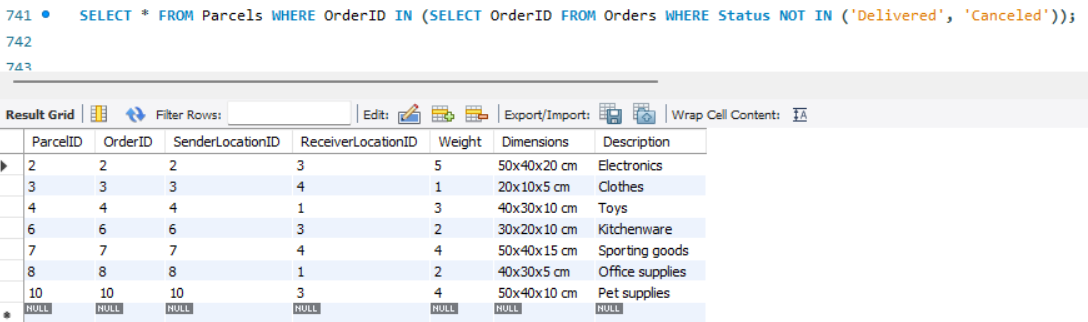
1. List all packages for a specific order:



1. List all deliveries for a specific courier:



1. List all undelivered packages:



1. List all packages that are scheduled for delivery today:

A screenshot of a computer

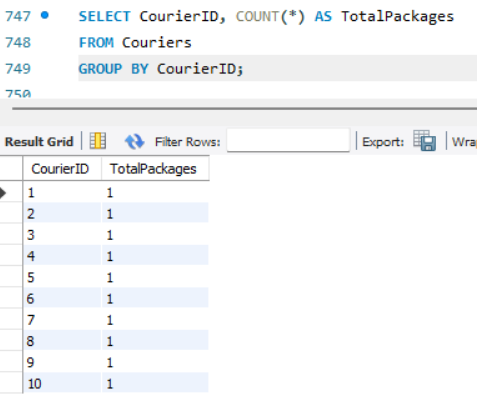
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1. List all packages with a specific status:

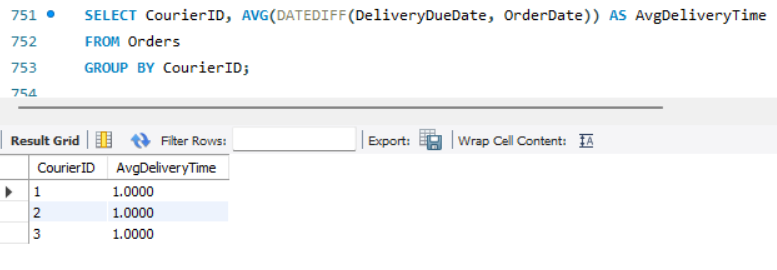
A screenshot of a computer

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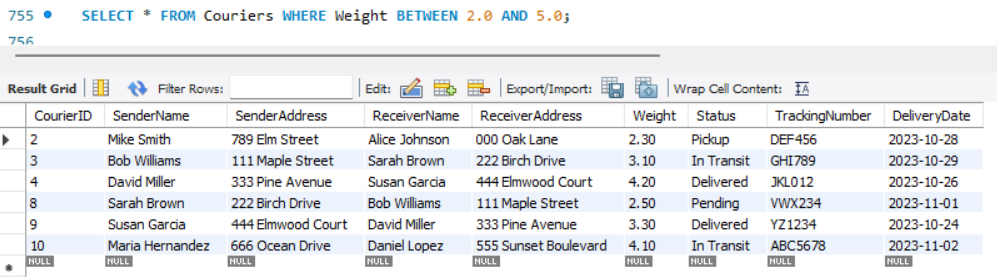
1. Calculate the total number of packages for each courier.



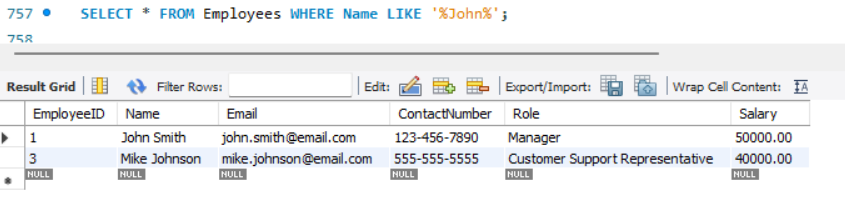
1. Find the average delivery time for each courier



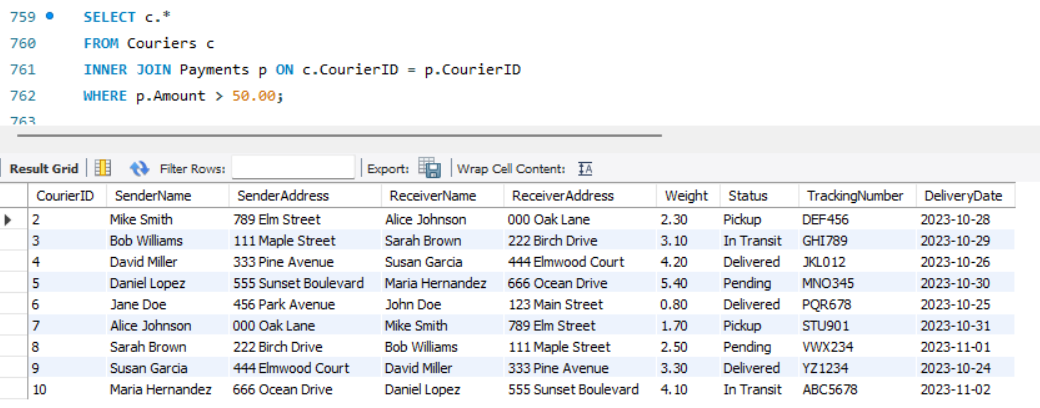
1. List all packages with a specific weight range:



1. Retrieve employees whose names contain 'John' .

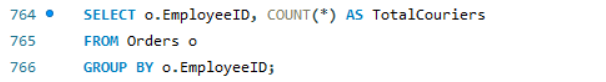


1. Retrieve all courier records with payments greater than $50.



**Task 3: GroupBy, Aggregate Functions, Having, Order By, where**

14. Find the total number of couriers handled by each employee.

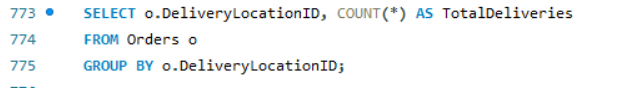


15. Calculate the total revenue generated by each location

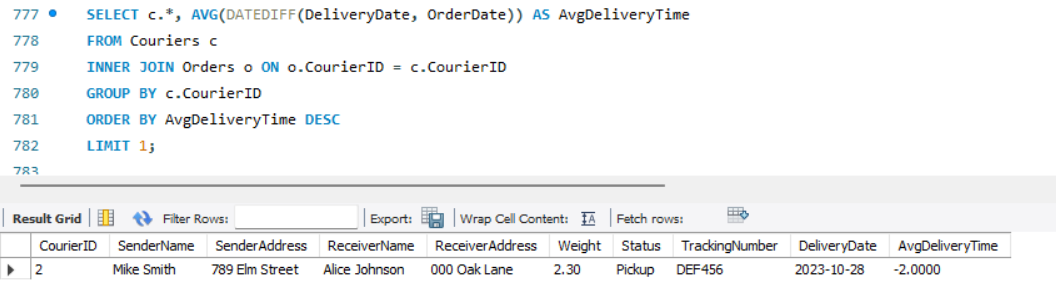
A screenshot of a computer

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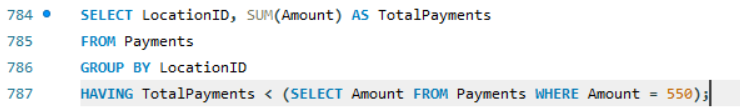
16. Find the total number of couriers delivered to each location.



17. Find the courier with the highest average delivery time:



18. Find Locations with Total Payments Less Than a Certain Amount

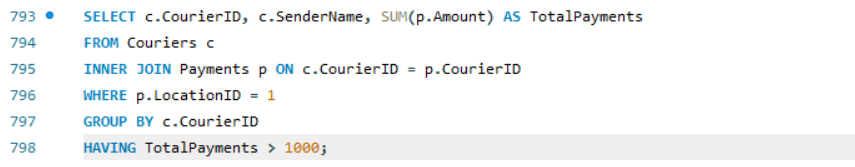


19. Calculate Total Payments per Location

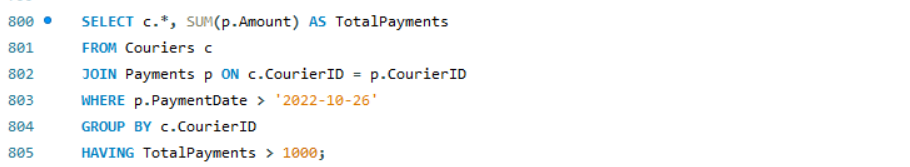
A screenshot of a computer

Description automatically generated

20. Retrieve couriers who have received payments totaling more than $1000 in a specific location (LocationID = X):



21. Retrieve couriers who have received payments totaling more than $1000 after a certain date (PaymentDate > 'YYYY-MM-DD'):



22. Retrieve locations where the total amount received is more than $5000 before a certain date (PaymentDate > 'YYYY-MM-DD')

A screenshot of a computer

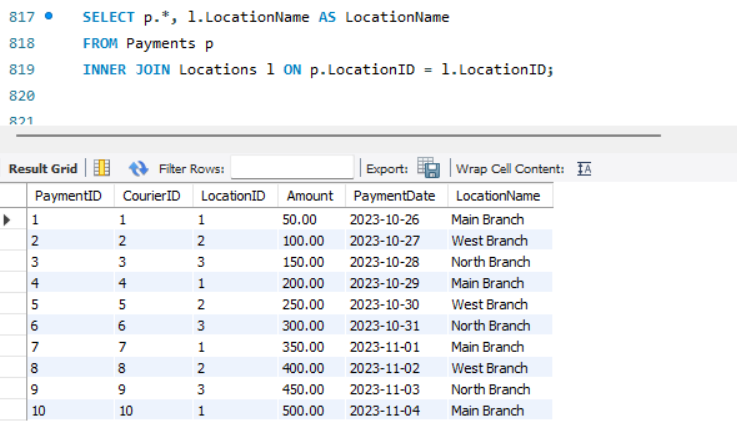
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Task 4: Inner Join,Full Outer Join, Cross Join, Left Outer Join,Right Outer Join

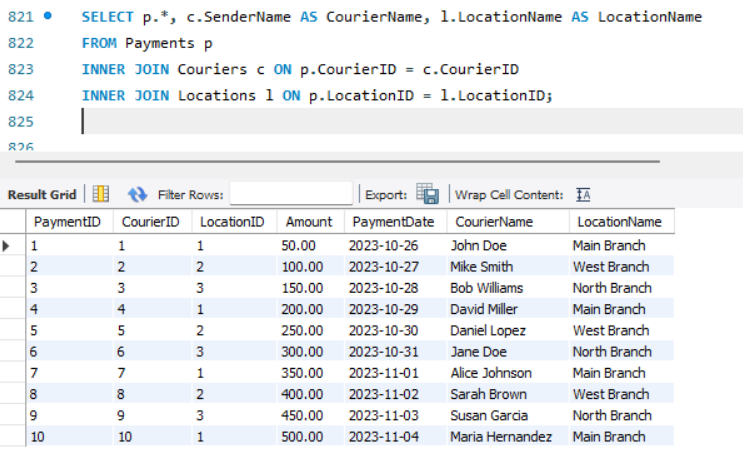
23. Retrieve Payments with Courier Information



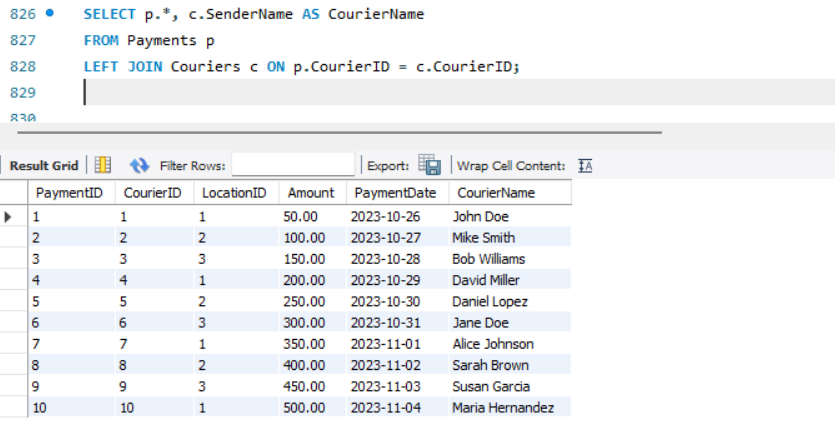
24. Retrieve Payments with Location Information



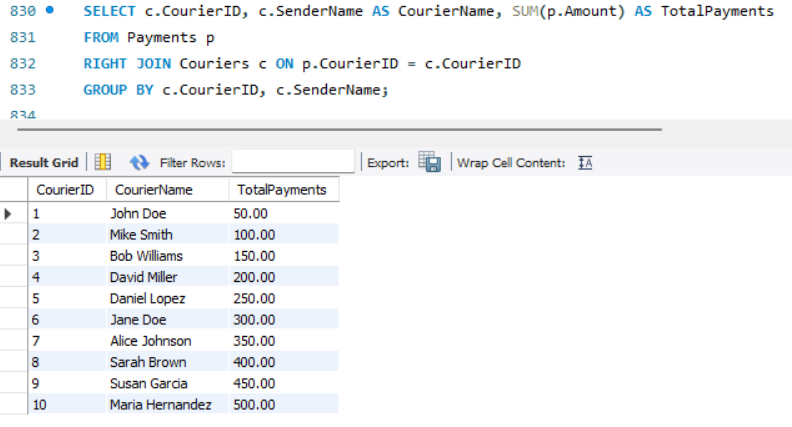
25. Retrieve Payments with Courier and Location Information



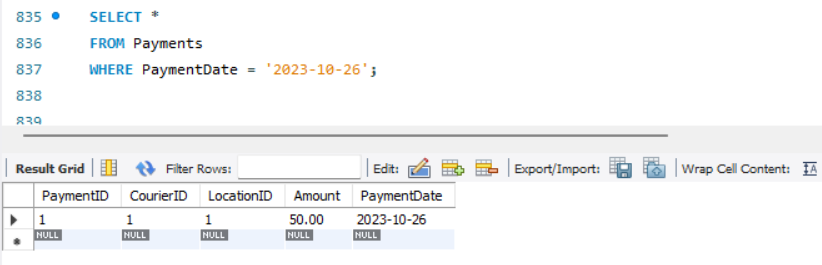
26. List all payments with courier details



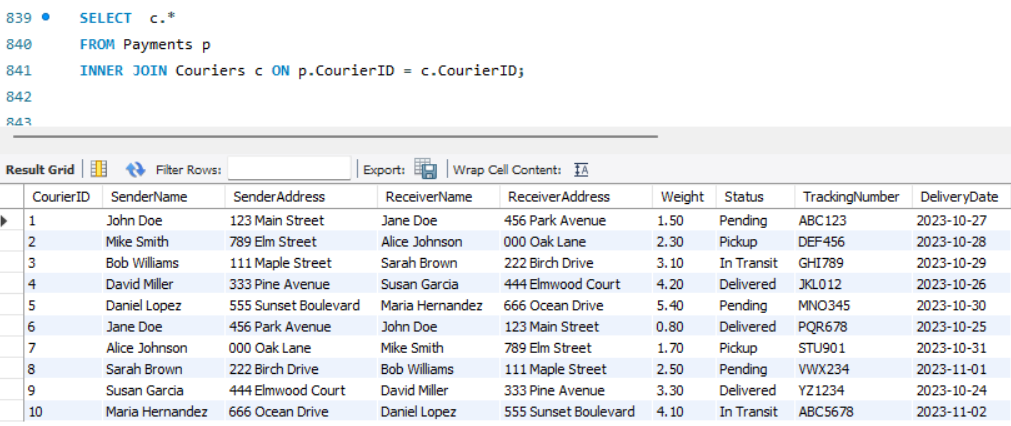
27. Total payments received for each courier



28. List payments made on a specific date



29. Get Courier Information for Each Payment



30. Get Payment Details with Location



31. Calculating Total Payments for Each Courier

A screenshot of a computer

Description automatically generated

32. List Payments Within a Date Range

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Description automatically generated

33. Retrieve a list of all users and their corresponding courier records, including cases where there are no matches on either side

A screenshot of a computer

Description automatically generated

34. Retrieve a list of all couriers and their corresponding services, including cases where there are no matches on either side

A close-up of a computer screen

Description automatically generated

35. Retrieve a list of all employees and their corresponding payments, including cases where there are no matches on either side

A close up of a computer screen

Description automatically generated

36. List all users and all courier services, showing all possible combinations.

A screenshot of a computer

Description automatically generated

37. List all employees and all locations, showing all possible combinations:

A screenshot of a computer

Description automatically generated

38. Retrieve a list of couriers and their corresponding sender information (if available)

A screenshot of a computer

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39. Retrieve a list of couriers and their corresponding receiver information (if available):

A screenshot of a computer

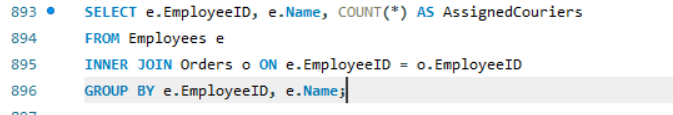
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40. Retrieve a list of couriers along with the courier service details (if available):

A screenshot of a computer program

Description automatically generated

41. Retrieve a list of employees and the number of couriers assigned to each employee:



42. Retrieve a list of locations and the total payment amount received at each location:

A screenshot of a computer

Description automatically generated

43. Retrieve all couriers sent by the same sender (based on SenderName).

A screenshot of a computer

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44. List all employees who share the same role.

A screenshot of a contact form

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45. Retrieve all payments made for couriers sent from the same location.

A computer screen shot of a number

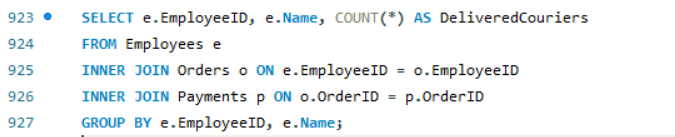
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46. Retrieve all couriers sent from the same location (based on SenderAddress).

A screenshot of a computer

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47. List employees and the number of couriers they have delivered:



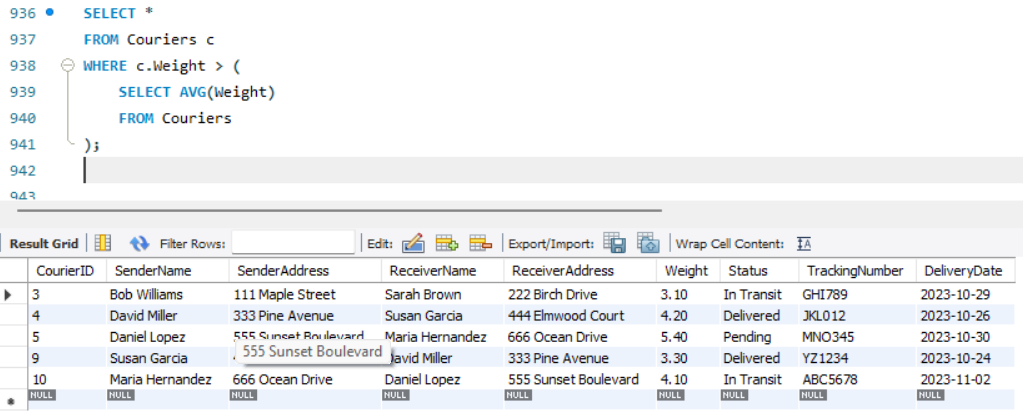
48. Find couriers that were paid an amount greater than the cost of their respective courier services

A screenshot of a computer code

Description automatically generated

**Scope: Inner Queries, Non Equi Joins, Equi joins,Exist,Any,All**

49. Find couriers that have a weight greater than the average weight of all couriers



50. Find the names of all employees who have a salary greater than the average salary:

A screenshot of a computer

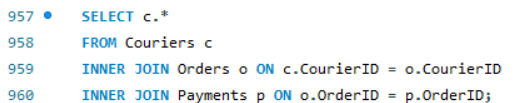
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51. Find the total cost of all courier services where the cost is less than the maximum cost

A screenshot of a computer

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52. Find all couriers that have been paid for



53. Find the locations where the maximum payment amount was made

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54. Find all couriers whose weight is greater than the weight of all couriers sent by a specific sender (e.g., 'SenderName'):

A computer screen shot of a code

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1. [↑](#footnote-ref-0)