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Chapter 6
How to code summary queries

Objectives

1. Write a SELECT statement that returns one row for each vendor in the Invoices table that contains these columns :

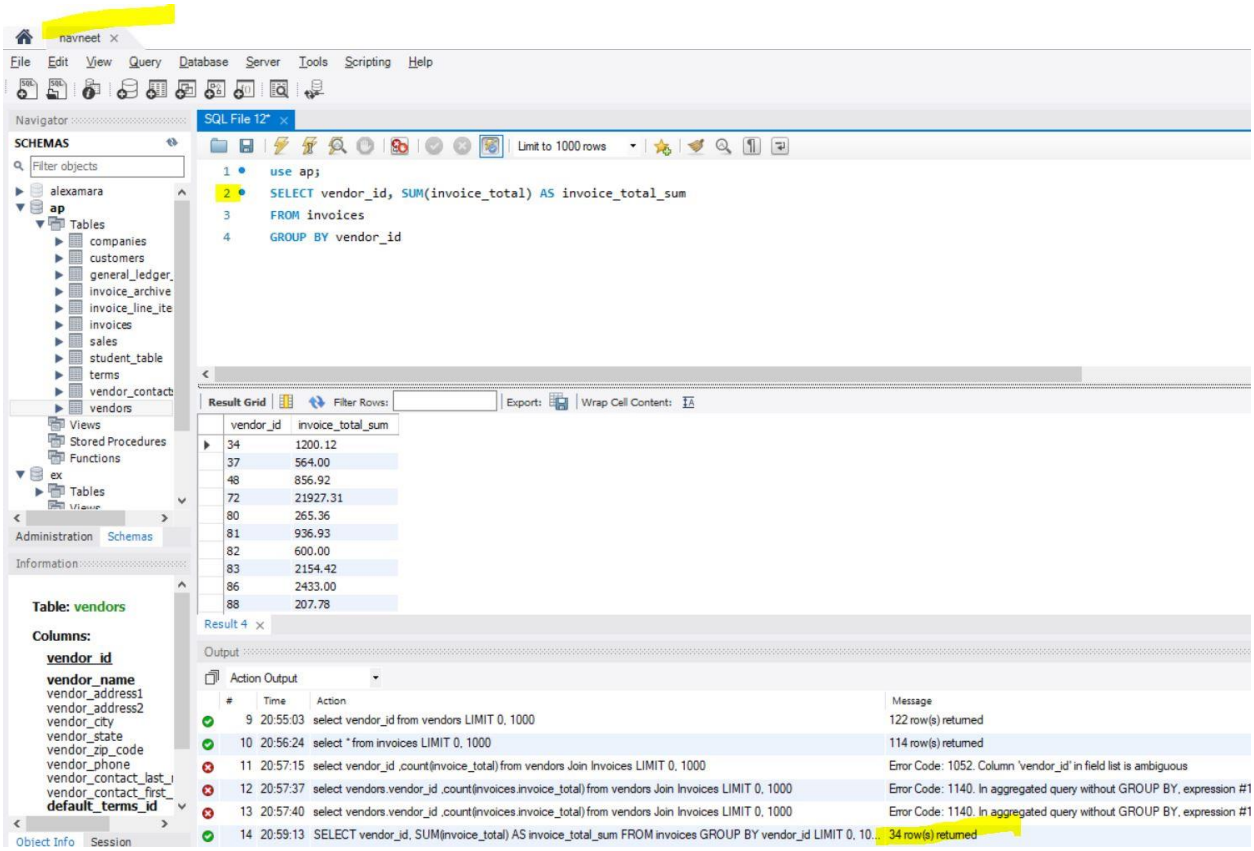
   The vendor_id column from the Vendors table

   The sum of the invoice_total columns in the Invoices table for that vendor

   This should return 34 rows.

Answer:

```
SELECT vendor_id, SUM(invoice_total) AS invoice_total_sum
FROM invoices
GROUP BY vendor_id
```



2. Write a SELECT statement that returns one row for each vendor that contains these columns:

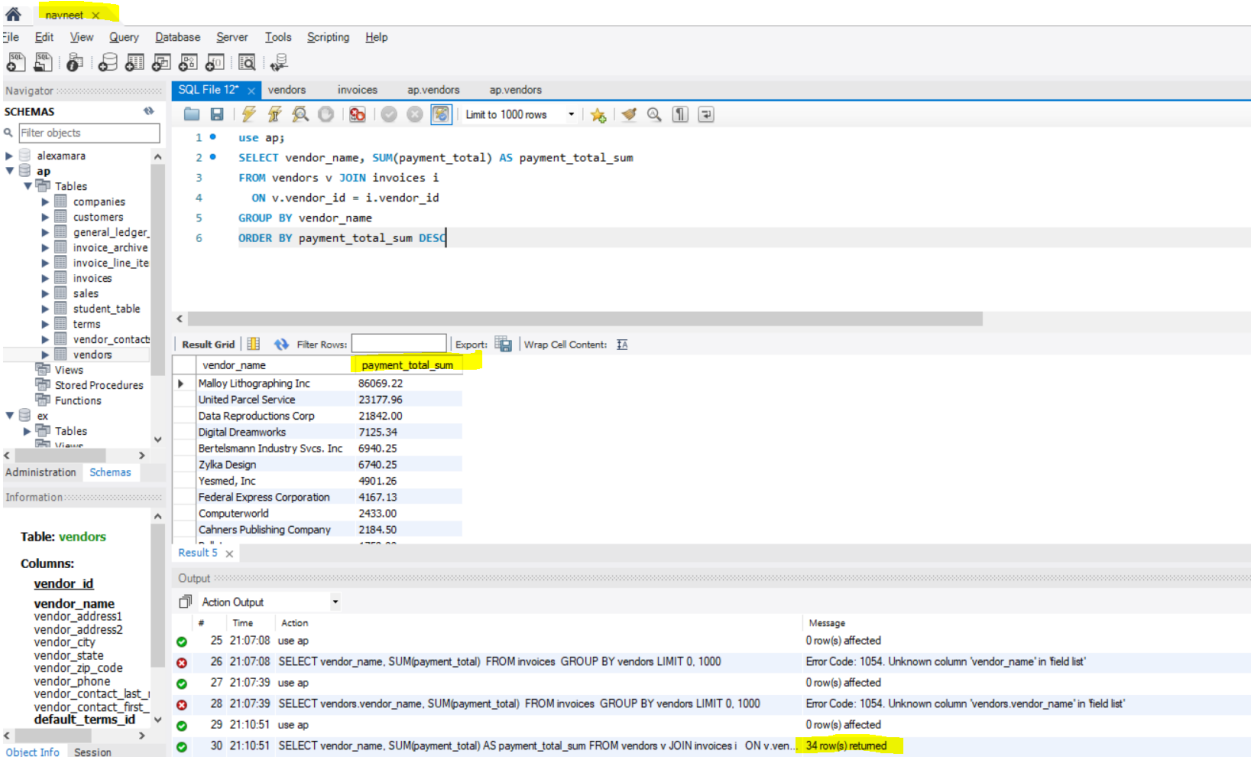
   The vendor_name column from the Vendors table

   The sum of the payment_total columns in the Invoices table for that vendor

   Sort the result set in descending sequence by the payment total sum for each vendor.

Answer:

```
SELECT vendor_name, SUM(payment_total) AS payment_total_sum
FROM vendors v JOIN invoices i
  ON v.vendor_id = i.vendor_id
GROUP BY vendor_name
ORDER BY payment_total_sum DESC
```



3. Write a SELECT statement that returns one row for each vendor that contains three columns:

   The vendor_name column from the Vendors table

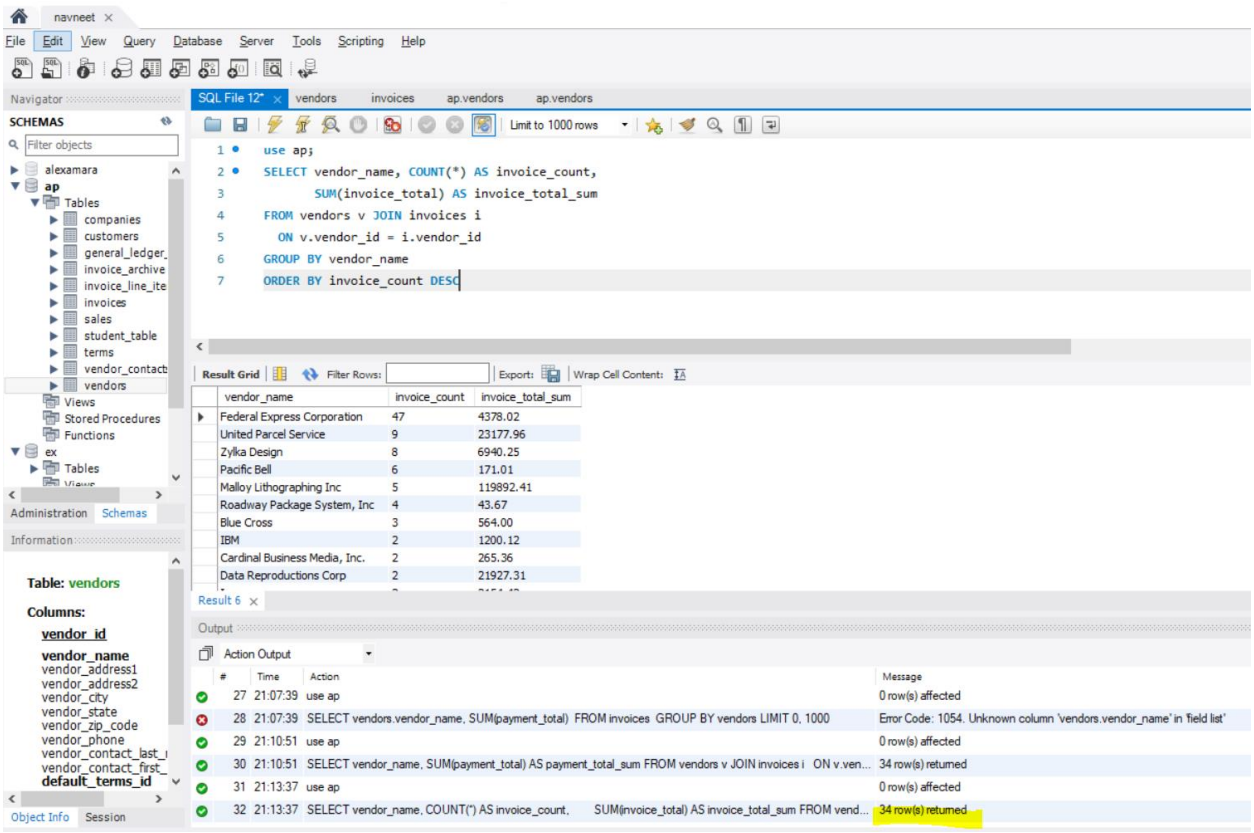
   The count of the invoices in the Invoices table for each vendor

   The sum of the invoice_total columns in the Invoices table for each vendor

   Sort the result set so the vendor with the most invoices appears first.

Answer:

```
SELECT vendor_name, COUNT(*) AS invoice_count,
    SUM(invoice_total) AS invoice_total_sum
FROM vendors v JOIN invoices i
  ON v.vendor_id = i.vendor_id
GROUP BY vendor_name
ORDER BY invoice_count DESC
```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invoice_line_ite
invoices
sales
student_table
terms
vendor_contact
vendors
Views
Stored Procedures
Functions
ex
Tables
Administration Schemas
Information
Table: vendors
Columns:
vendor_id
vendor_name
vendor_address1
vendor_address2
vendor_city
vendor_state
vendor_zip_code
vendor_phone
vendor_contact_last_
vendor_contact_first_
default_terms_id
Object Info Session
SQL File 12* vendors invoices ap.vendors ap.vendors
Limit to 1000 rows
use ap;
SELECT vendor_name, COUNT(*) AS invoice_count,
SUM(invoice_total) AS invoice_total_sum
FROM vendors v JOIN invoices i
ON v.vendor_id = i.vendor_id
GROUP BY vendor_name
ORDER BY invoice_count DESC
Result Grid Filter Rows: Export: Wrap Cell Content:
vendor_name invoice_count invoice_total_sum
Federal Express Corporation 47 4378.02
United Parcel Service 9 23177.96
Zylka Design 8 6940.25
Pacific Bell 6 171.01
Malloy Lithographing Inc 5 119892.41
Roadway Package System, Inc 4 43.67
Blue Cross 3 564.00
IBM 2 1200.12
Cardinal Business Media, Inc. 2 265.36
Data Reproductions Corp 2 21927.31
Result 6
Output
Action Output
Time Action Message
27 21:07:39 use ap 0 row(s) affected
28 21:07:39 SELECT vendors.vendor_name, SUM(payment_total) FROM invoices GROUP BY vendors LIMIT 0, 1000 Error Code: 1054. Unknown column 'vendors.vendor_name' in 'field list'
29 21:10:51 use ap 0 row(s) affected
30 21:10:51 SELECT vendor_name, SUM(payment_total) AS payment_total_sum FROM vendors v JOIN invoices i ON v.ven... 34 row(s) returned
31 21:13:37 use ap 0 row(s) affected
32 21:13:37 SELECT vendor_name, COUNT(*) AS invoice_count, SUM(invoice_total) AS invoice_total_sum FROM vend... 34 row(s) returned

4. Write a SELECT statement that returns one row for each general ledger account number that contains three columns:

   The account_description column from the General_Ledger_Accounts table

   The count of the items in the Invoice_Line_Items table that have the same account_number

   The sum of the line_item_amount columns in the Invoice_Line_Items table that have the same account_number

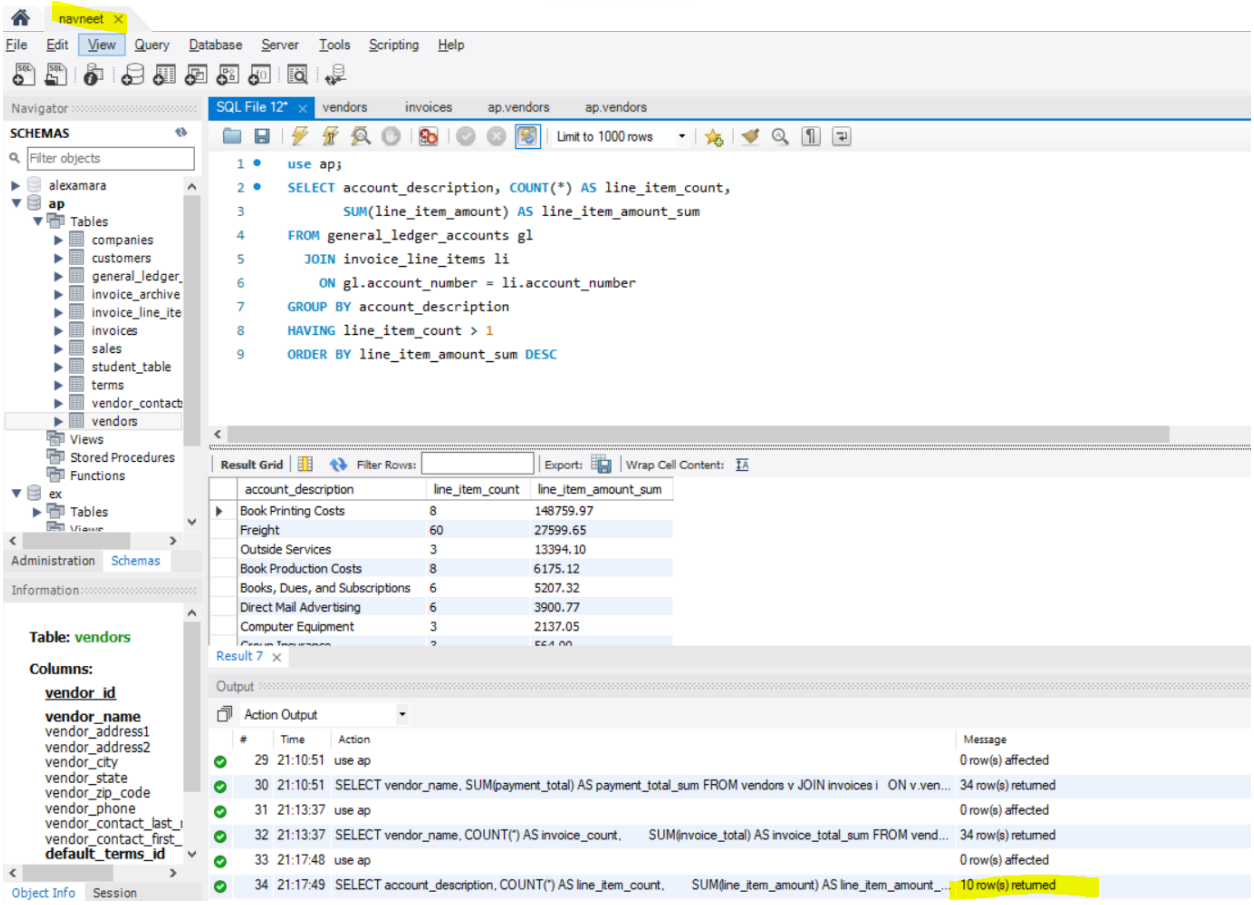
   Return only those rows where the count of line items is greater than 1. This should return 10 rows.

Group the result set by account description.

Sort the result set in descending sequence by the sum of the line item amounts.

Answer:

```
SELECT account_description, COUNT(*) AS line_item_count,
    SUM(line_item_amount) AS line_item_amount_sum
FROM general_ledger_accounts gl
  JOIN invoice_line_items li
    ON gl.account_number = li.account_number
GROUP BY account_description
HAVING line_item_count > 1
ORDER BY line_item_amount_sum DESC
```

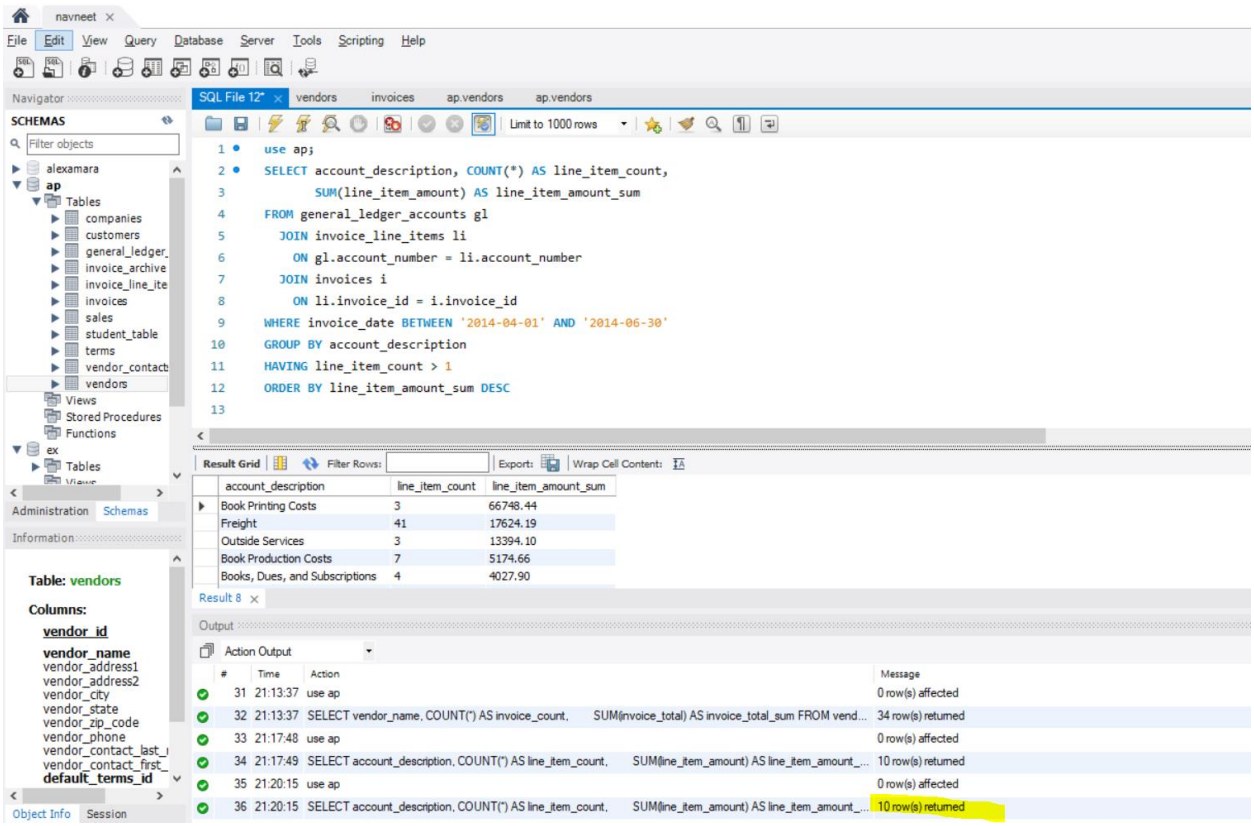


5. Modify the solution to exercise 4 so it returns only invoices dated in the second quarter of 2014 (April 1, 2014 to June 30, 2014). This should still return 10 rows but with some different line item counts for each vendor. *Hint: Join to the Invoices table to code a search condition based on invoice_date.*

Answer:

```
SELECT account_description, COUNT(*) AS line_item_count,
    SUM(line_item_amount) AS line_item_amount_sum
FROM general_ledger_accounts gl
 JOIN invoice_line_items li
```

```
    ON gl.account_number = li.account_number
  JOIN invoices i
    ON li.invoice_id = i.invoice_id
WHERE invoice_date BETWEEN '2014-04-01' AND '2014-06-30'
GROUP BY account_description
HAVING line_item_count > 1
ORDER BY line_item_amount_sum DESC
```



6. Write a SELECT statement that answers this question: What is the total amount invoiced for each general ledger account number? Return these columns:

   The account number from the Invoice_Line_Items table

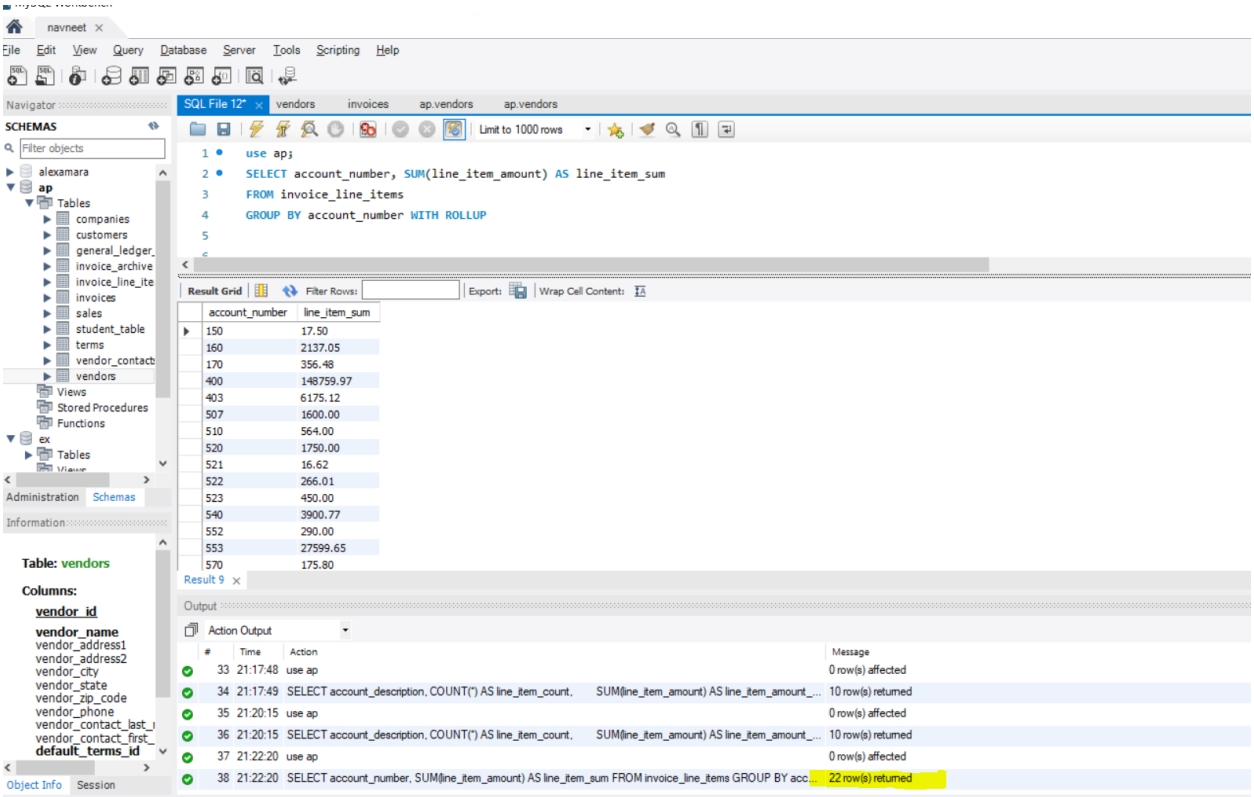
   The sum of the line item amounts from the Invoice_Line_Items table

   Use the WITH ROLLUP operator to include a row that gives the grand total. This should return 22 rows.

   Note: Once you add the WITH ROLLUP operator, you may need to use MySQL Workbench's Execute SQL Script button instead of its Execute Current Statement button to execute this statement.

Answer:

```
SELECT account_number, SUM(line_item_amount) AS line_item_sum
FROM invoice_line_items
GROUP BY account_number WITH ROLLUP
```



7. Write a SELECT statement that answers this question: Which vendors are being paid from more than one account? Return these columns:

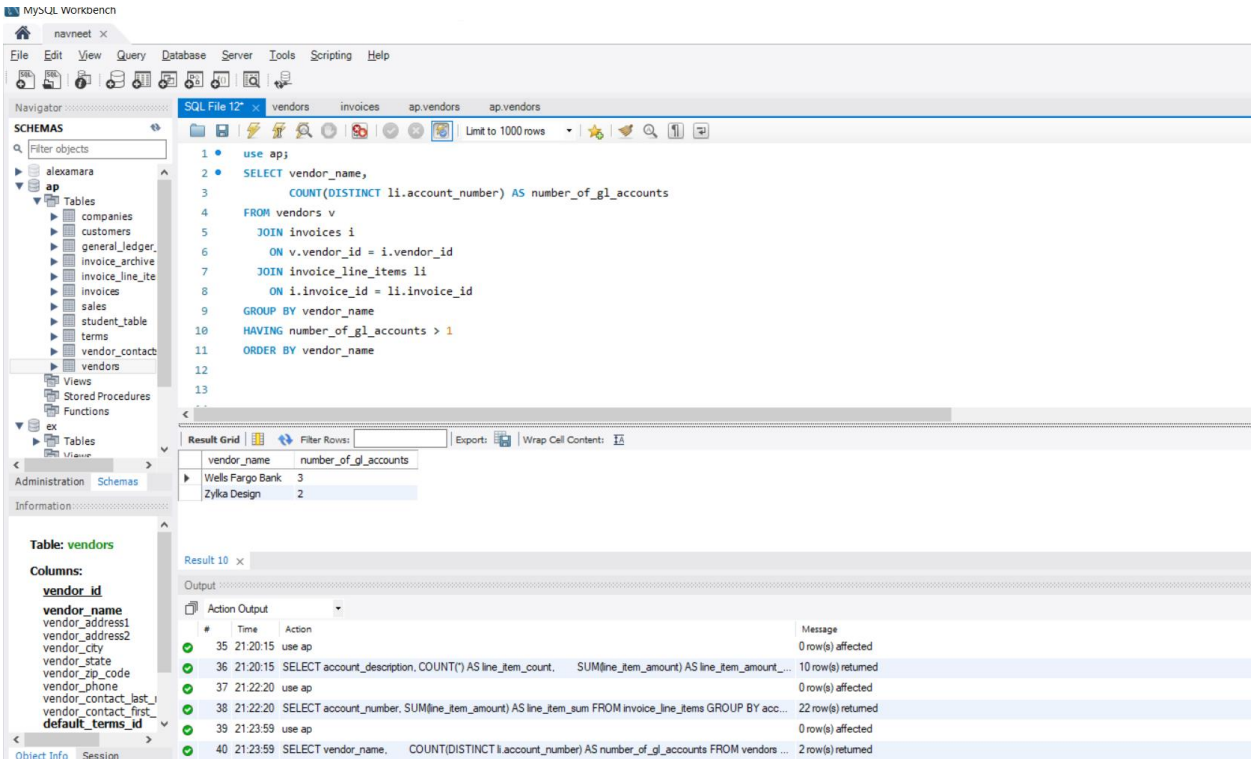
   The vendor name from the Vendors table

   The count of distinct general ledger accounts that apply to that vendor's invoices

   This should return 2 rows.

Answer:

```
SELECT vendor_name,
    COUNT(DISTINCT li.account_number) AS number_of_gl_accounts
FROM vendors v
  JOIN invoices i
    ON v.vendor_id = i.vendor_id
  JOIN invoice_line_items li
    ON i.invoice_id = li.invoice_id
GROUP BY vendor_name
HAVING number_of_gl_accounts > 1
ORDER BY vendor_name
```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invoice_line_ite
invoices
sales
student_table
terms
vendor_contact
vendors
Views
Stored Procedures
Functions
ex
Tables
Administration Schemas
Information
Table: vendors
Columns:
vendor_id
vendor_name
vendor_address1
vendor_address2
vendor_city
vendor_state
vendor_zip_code
vendor_phone
vendor_contact_last_
vendor_contact_first_
default_terms_id
Object Info Session
SQL File 12* vendors invoices ap.vendors ap.vendors
Limit to 1000 rows
use ap;
SELECT vendor_name,
COUNT(DISTINCT li.account_number) AS number_of_gl_accounts
FROM vendors v
JOIN invoices i
ON v.vendor_id = i.vendor_id
JOIN invoice_line_items li
ON i.invoice_id = li.invoice_id
GROUP BY vendor_name
HAVING number_of_gl_accounts > 1
ORDER BY vendor_name
Result Grid Filter Rows: Export: Wrap Cell Content:
vendor_name number_of_gl_accounts
Wells Fargo Bank 3
Zylka Design 2
Result 10
Output
Action Output
Time Action Message
35 21:20:15 use ap 0 row(s) affected
36 21:20:15 SELECT account_description, COUNT(*) AS line_item_count, SUM(line_item_amount) AS line_item_amount_... 10 row(s) returned
37 21:22:20 use ap 0 row(s) affected
38 21:22:20 SELECT account_number, SUM(line_item_amount) AS line_item_sum FROM invoice_line_items GROUP BY acc... 22 row(s) returned
39 21:23:59 use ap 0 row(s) affected
40 21:23:59 SELECT vendor_name, COUNT(DISTINCT li.account_number) AS number_of_gl_accounts FROM vendors ... 2 row(s) returned