MYSQL LAB 4 JOIN (Select –From –Join –On-Where-Order By)

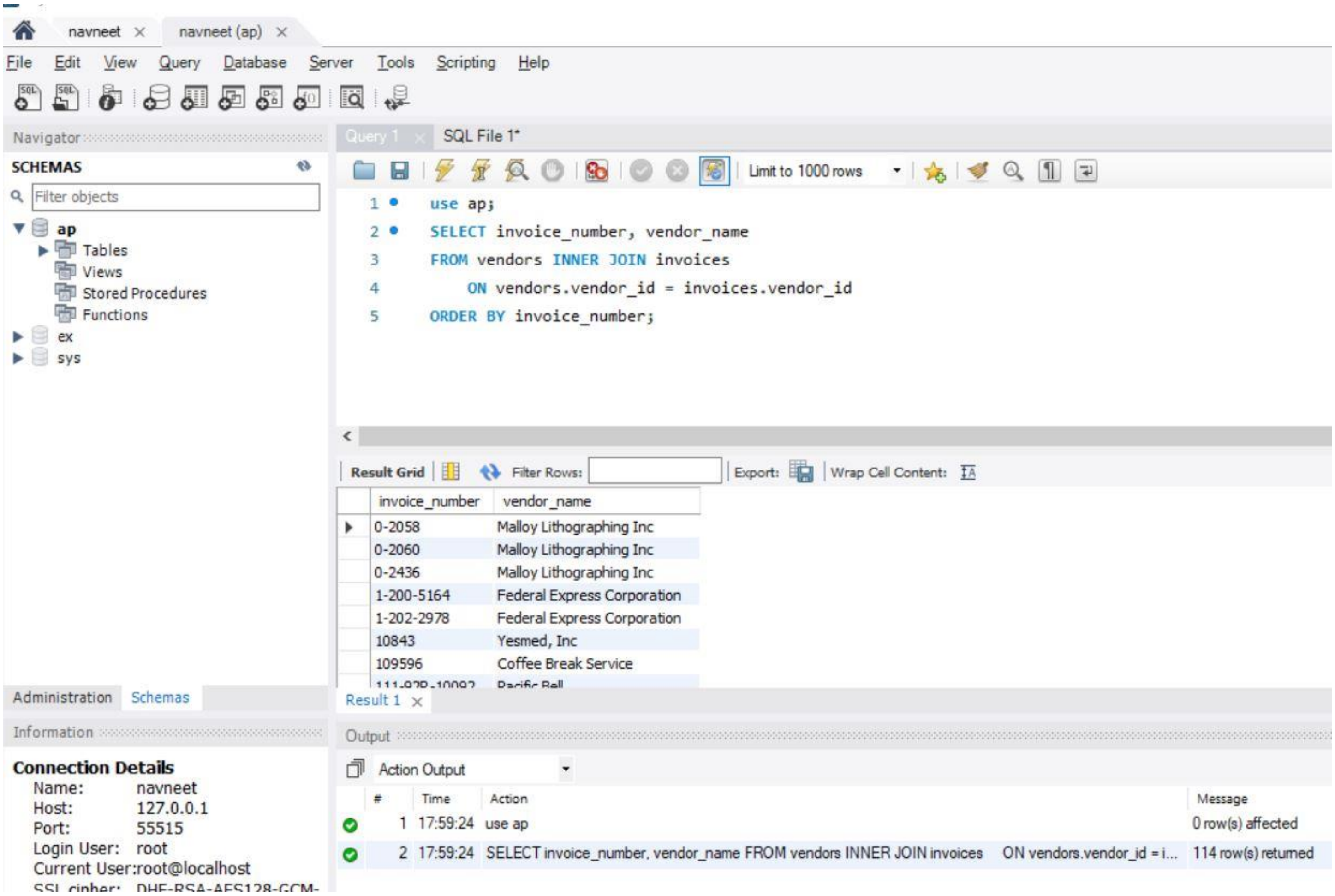
1)INNER JOIN

SELECT invoice_number, vendor_name

FROM vendors INNER JOIN invoices

ON vendors.vendor_id = invoices.vendor_id

ORDER BY invoice_number;



```
use ap;
SELECT invoice_number, vendor_name
FROM vendors INNER JOIN invoices
    ON vendors.vendor_id = invoices.vendor_id
ORDER BY invoice_number;
```

invoice_number	vendor_name
0-2058	Malloy Lithographing Inc
0-2060	Malloy Lithographing Inc
0-2436	Malloy Lithographing Inc
1-200-5164	Federal Express Corporation
1-202-2978	Federal Express Corporation
10843	Yesmed, Inc
109596	Coffee Break Service
111-92R-10092	Pacific Bell

```
#  Time      Action                                                                                          Message
1  17:59:24  use ap                                                                                          0 row(s) affected
2  17:59:24  SELECT invoice_number, vendor_name FROM vendors INNER JOIN invoices    ON vendors.vendor_id = i...  114 row(s) returned
```

Connection Details

Name: navneet
Host: 127.0.0.1
Port: 55515
Login User: root
Current User:root@localhost
SSL cipher: DHE-RSA-AES128-GCM-

2)

i)**SELECT** invoice_number, vendor_name, invoice_due_date,

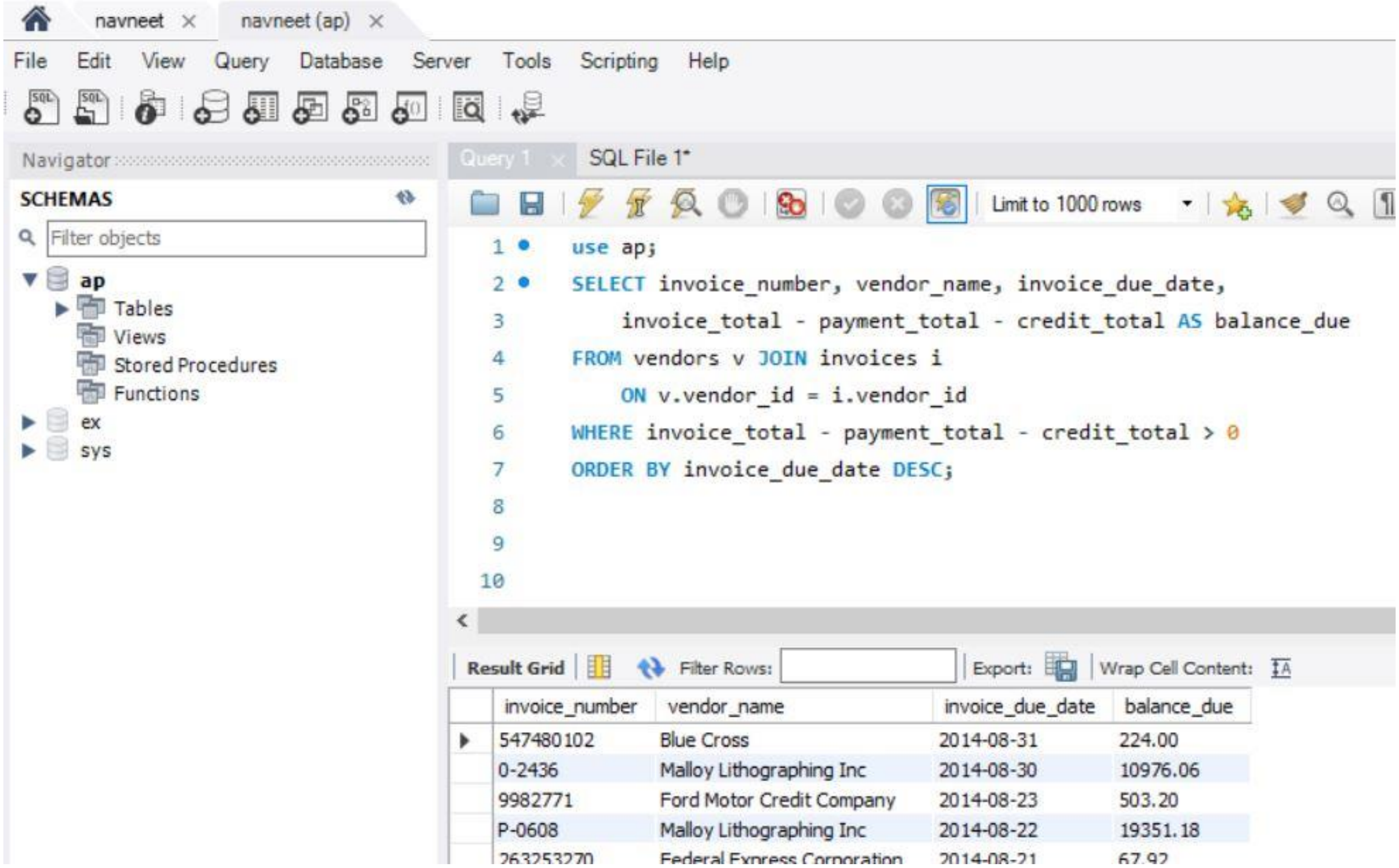
invoice_total - payment_total - credit_total AS balance_due

FROM vendors v JOIN invoices i

ON v.vendor_id = i.vendor_id

WHERE invoice_total - payment_total - credit_total > 0

ORDER BY invoice_due_date **DESC;**



```
use ap;
SELECT invoice_number, vendor_name, invoice_due_date,
    invoice_total - payment_total - credit_total AS balance_due
FROM vendors v JOIN invoices i
    ON v.vendor_id = i.vendor_id
WHERE invoice_total - payment_total - credit_total > 0
ORDER BY invoice_due_date DESC;
```

invoice_number	vendor_name	invoice_due_date	balance_due
547480102	Blue Cross	2014-08-31	224.00
0-2436	Malloy Lithographing Inc	2014-08-30	10976.06
9982771	Ford Motor Credit Company	2014-08-23	503.20
P-0608	Malloy Lithographing Inc	2014-08-22	19351.18
263253270	Federal Express Corporation	2014-08-21	67.92

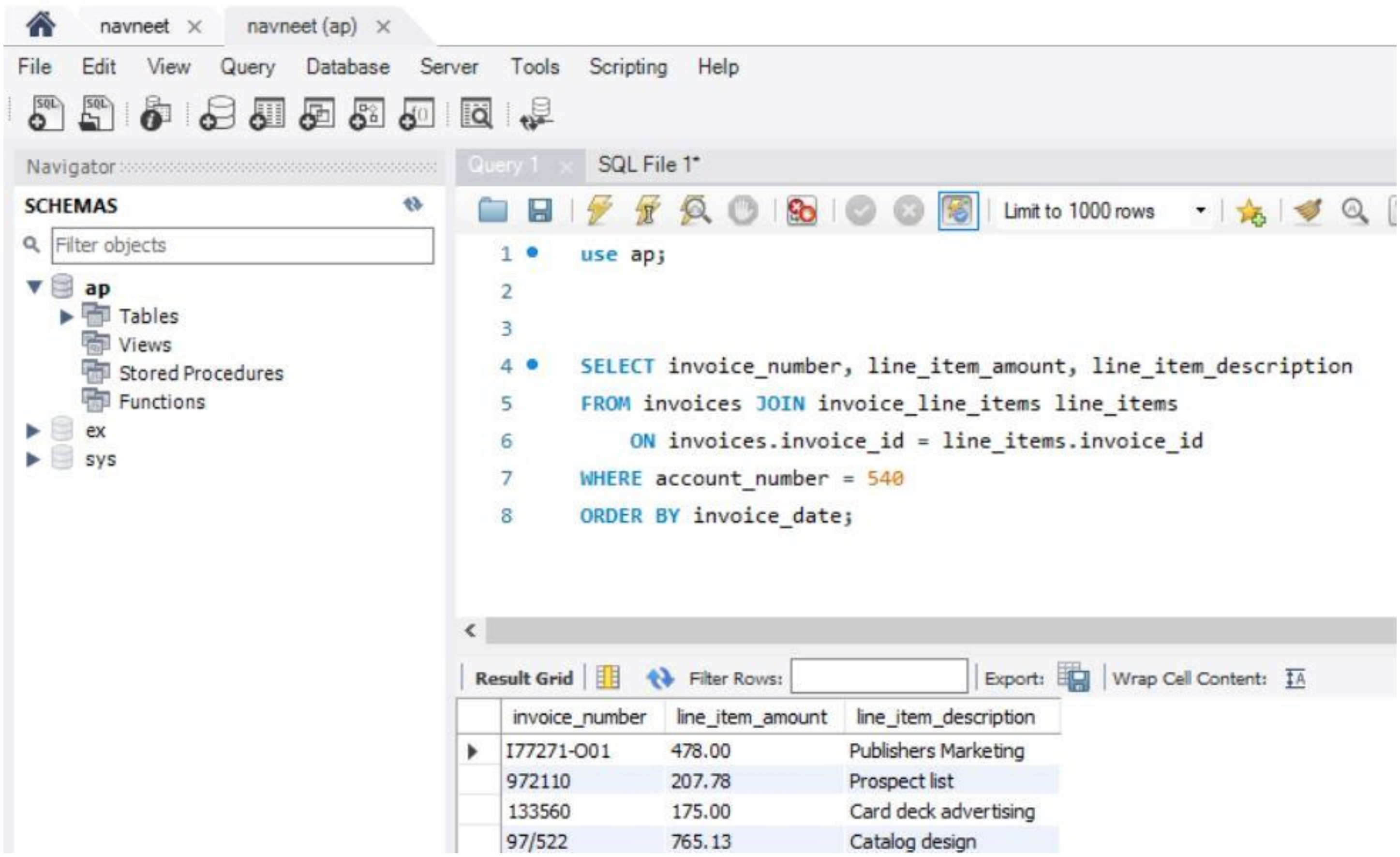
ii)SELECT invoice_number, line_item_amount, line_item_description

FROM invoices **JOIN** invoice_line_items line_items

ON invoices.invoice_id = line_items.invoice_id

WHERE account_number = 540

ORDER BY invoice_date**;**



```
use ap;


SELECT invoice_number, line_item_amount, line_item_description
FROM invoices JOIN invoice_line_items line_items
    ON invoices.invoice_id = line_items.invoice_id
WHERE account_number = 540
ORDER BY invoice_date;
```

invoice_number	line_item_amount	line_item_description
I77271-O01	478.00	Publishers Marketing
972110	207.78	Prospect list
133560	175.00	Card deck advertising
97/522	765.13	Catalog design

3) SELECT vendor_name, customer_last_name, customer_first_name,

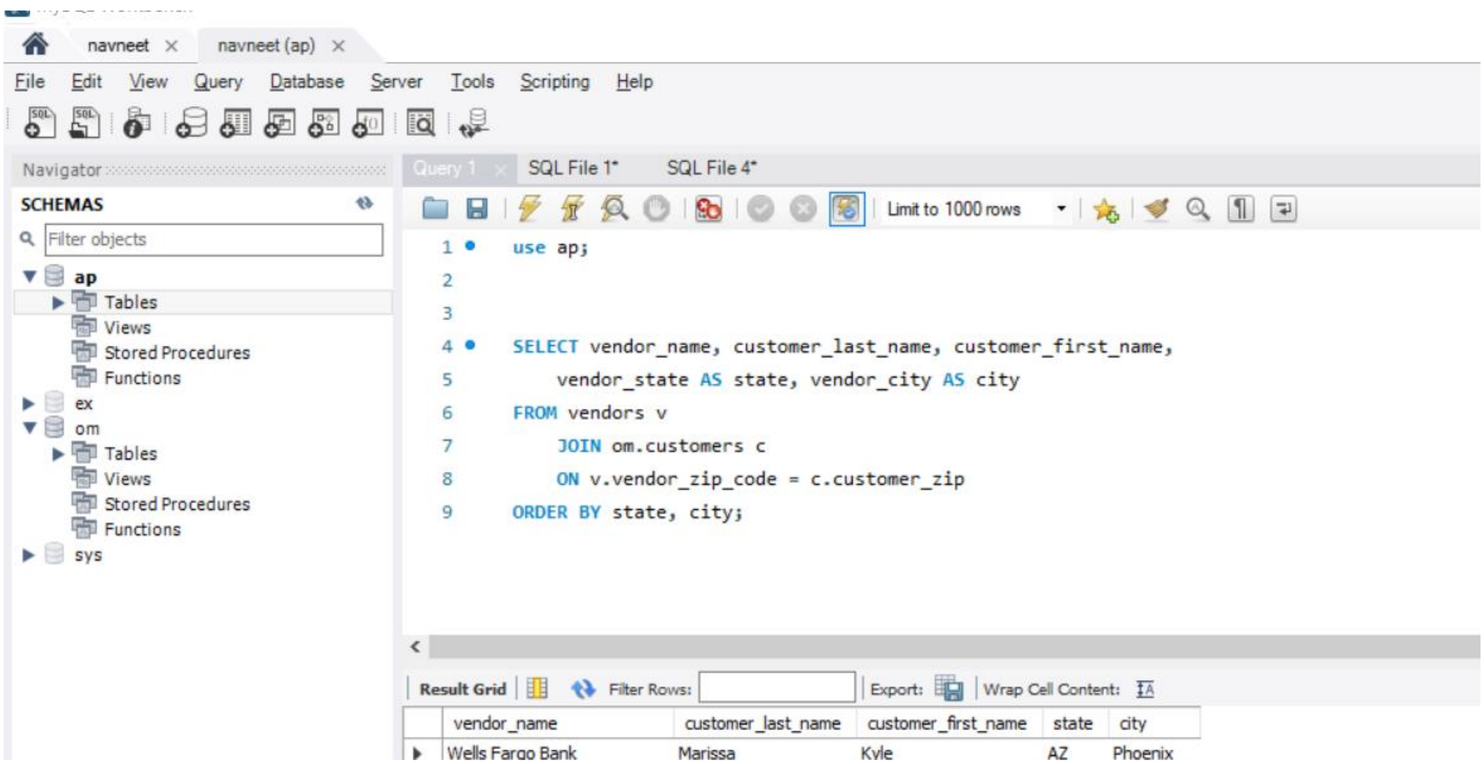
vendor_state AS state, vendor_city AS city

FROM vendors v

JOIN om.customers c

ON v.vendor_zip_code = c.customer_zip

ORDER BY state, city**;**



```
use ap;


SELECT vendor_name, customer_last_name, customer_first_name,
    vendor_state AS state, vendor_city AS city
FROM vendors v
    JOIN om.customers c
    ON v.vendor_zip_code = c.customer_zip
ORDER BY state, city;
```

vendor_name	customer_last_name	customer_first_name	state	city
Wells Fargo Bank	Marissa	Kyle	AZ	Phoenix

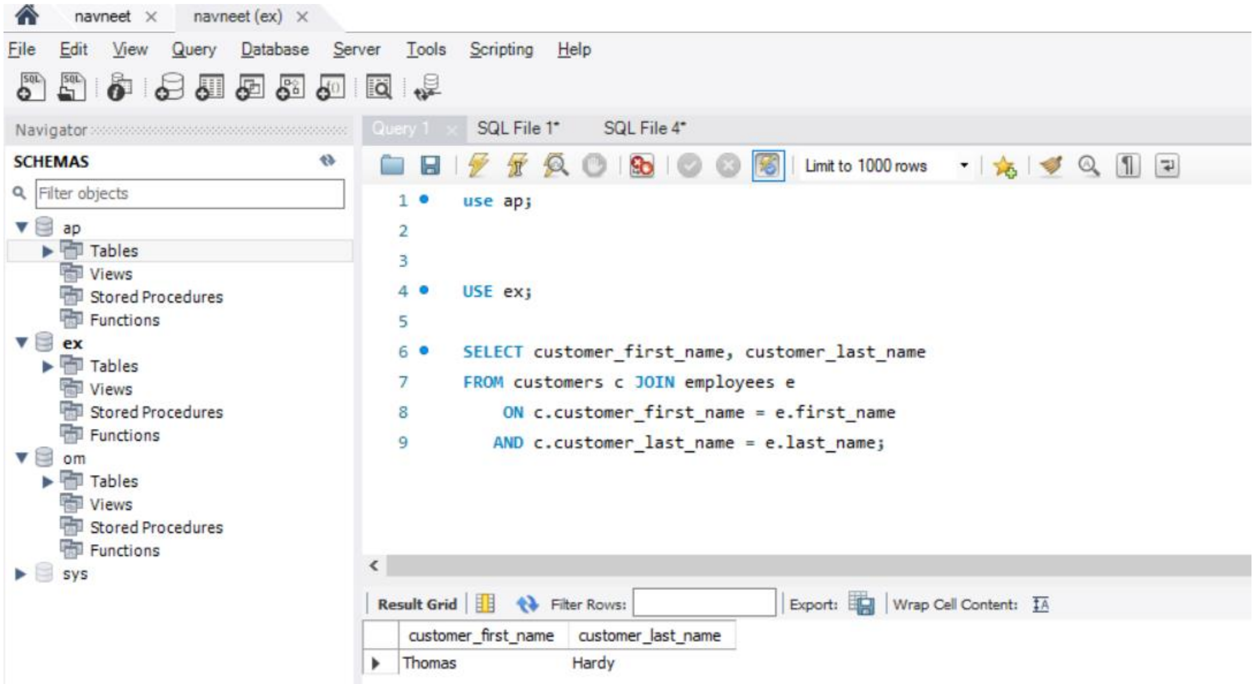
4) JOIN

SELECT customer_first_name, customer_last_name

FROM customers c **JOIN** employees e

ON c.customer_first_name = e.first_name

AND c.customer_last_name = e.last_name;

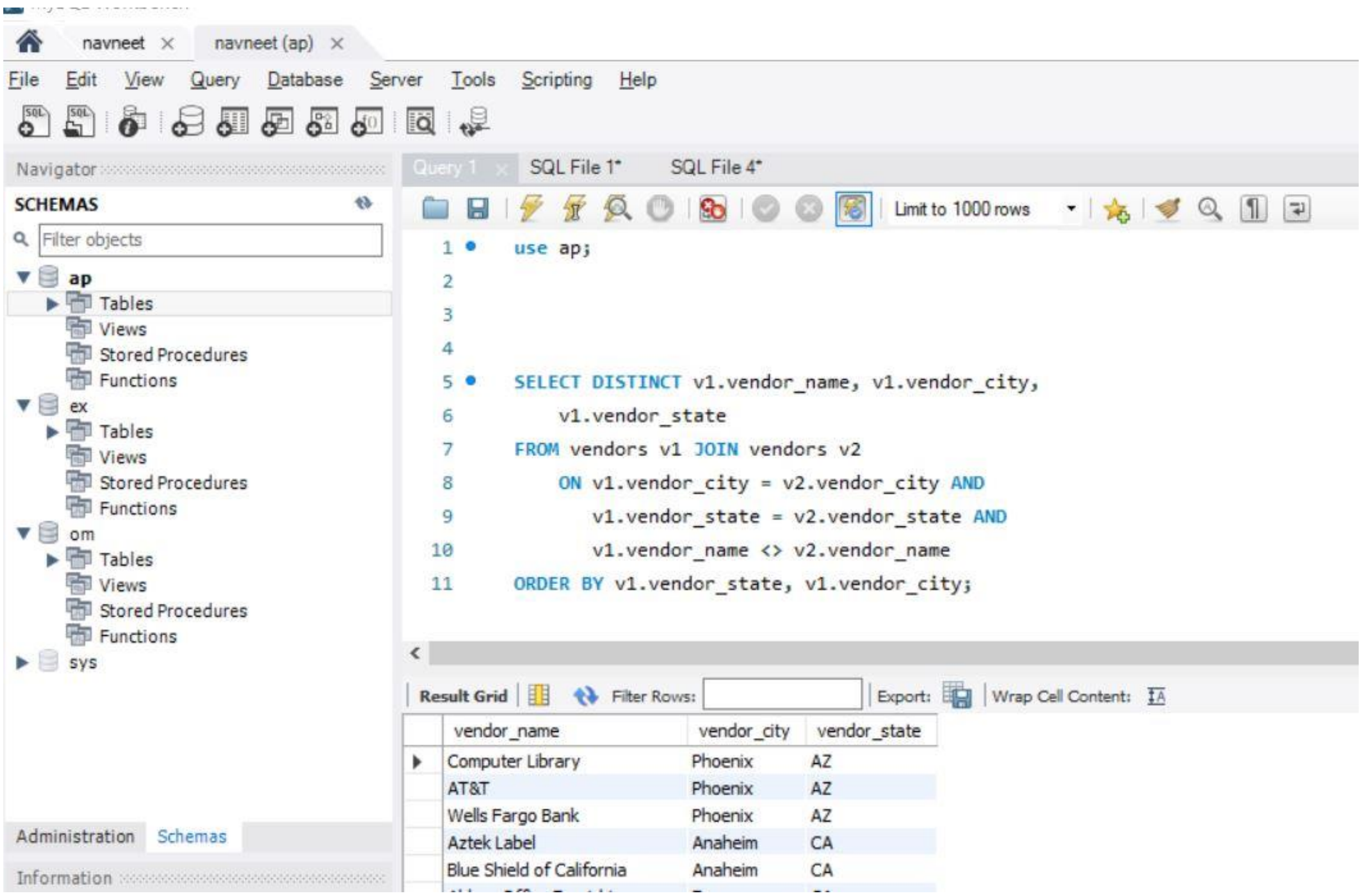


```
use ap;


USE ex;

SELECT customer_first_name, customer_last_name
FROM customers c JOIN employees e
    ON c.customer_first_name = e.first_name
   AND c.customer_last_name = e.last_name;
```

customer_first_name	customer_last_name
Thomas	Hardy

```
5) SELECT DISTINCT v1.vendor_name, v1.vendor_city,
   v1.vendor_state
FROM vendors v1 JOIN vendors v2
   ON v1.vendor_city = v2.vendor_city AND
     v1.vendor_state = v2.vendor_state AND
     v1.vendor_name <> v2.vendor_name
ORDER BY v1.vendor_state, v1.vendor_city;
```

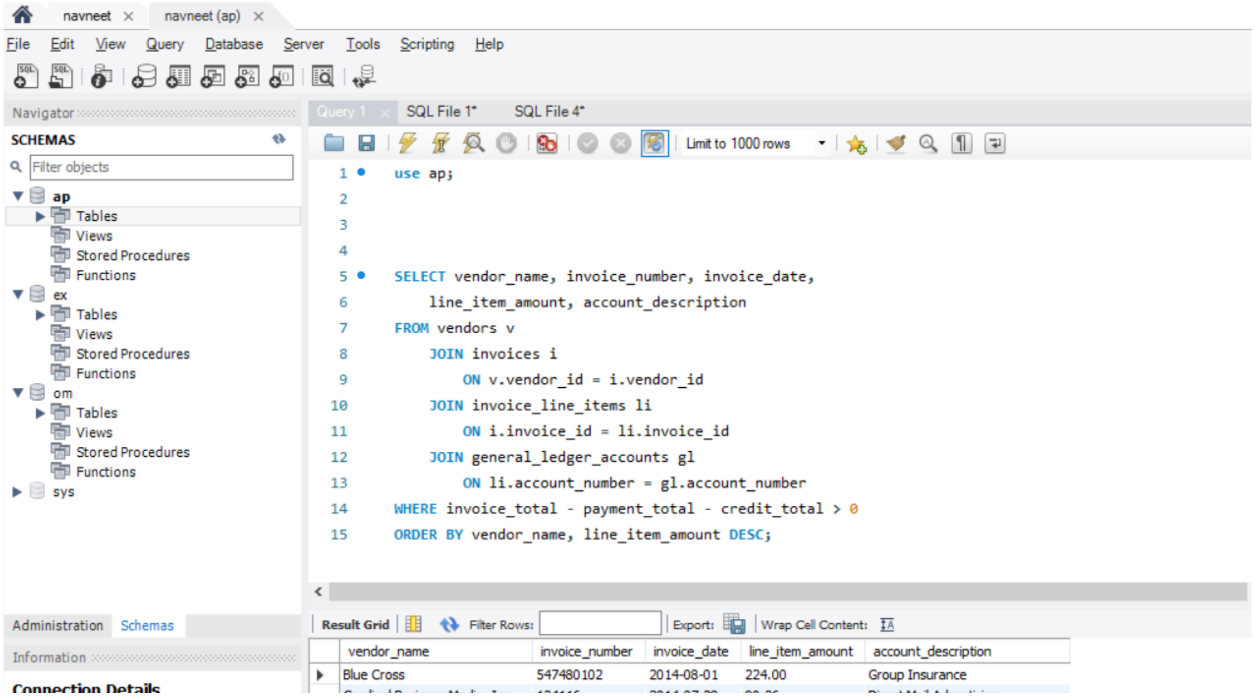
Answer:



```
use ap;



SELECT DISTINCT v1.vendor_name, v1.vendor_city,
    v1.vendor_state
FROM vendors v1 JOIN vendors v2
    ON v1.vendor_city = v2.vendor_city AND
       v1.vendor_state = v2.vendor_state AND
       v1.vendor_name <> v2.vendor_name
ORDER BY v1.vendor_state, v1.vendor_city;
```

vendor_name	vendor_city	vendor_state
Computer Library	Phoenix	AZ
AT&T	Phoenix	AZ
Wells Fargo Bank	Phoenix	AZ
Aztek Label	Anaheim	CA
Blue Shield of California	Anaheim	CA

```
6) SELECT vendor_name, invoice_number, invoice_date,
   line_item_amount, account_description
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
   JOIN general_ledger_accounts gl
      ON li.account_number = gl.account_number
WHERE invoice_total - payment_total - credit_total > 0
ORDER BY vendor_name, line_item_amount DESC;
```



```
use ap;



SELECT vendor_name, invoice_number, invoice_date,
    line_item_amount, account_description
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
    JOIN general_ledger_accounts gl
        ON li.account_number = gl.account_number
WHERE invoice_total - payment_total - credit_total > 0
ORDER BY vendor_name, line_item_amount DESC;
```

vendor_name	invoice_number	invoice_date	line_item_amount	account_description
Blue Cross	547480102	2014-08-01	224.00	Group Insurance

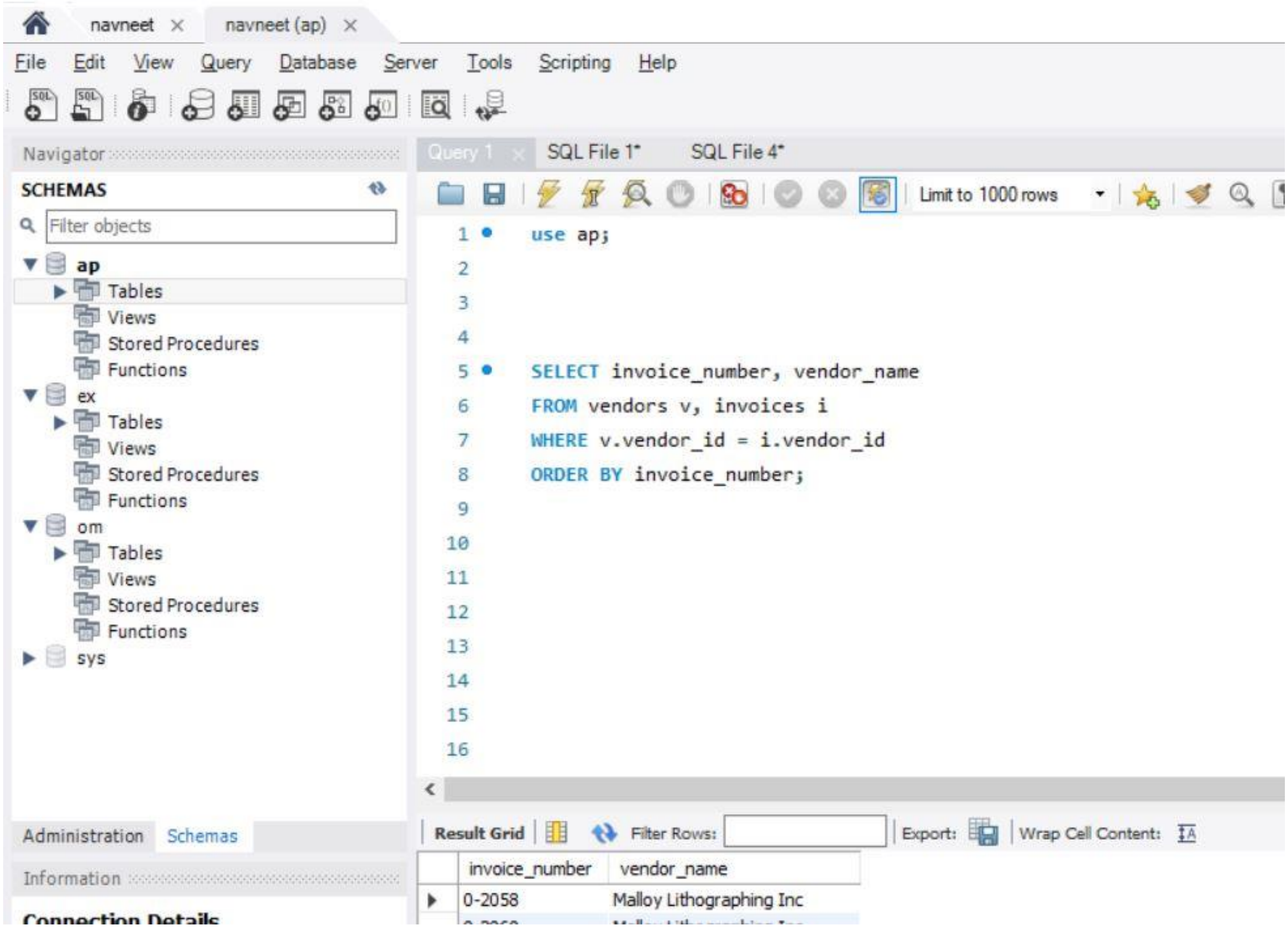
7)TABLE REFERENCE

i)**SELECT** invoice_number, vendor_name

FROM vendors v, invoices i

WHERE v.vendor_id = i.vendor_id

ORDER BY invoice_number**;**



```
use ap;



SELECT invoice_number, vendor_name
FROM vendors v, invoices i
WHERE v.vendor_id = i.vendor_id
ORDER BY invoice_number;
```

invoice_number	vendor_name
0-2058	Malloy Lithographing Inc

ii)SELECT vendor_name, invoice_number, invoice_date,

line_item_amount, account_description

FROM vendors **v,** invoices **i,** invoice_line_items **li,**

general_ledger_accounts gl

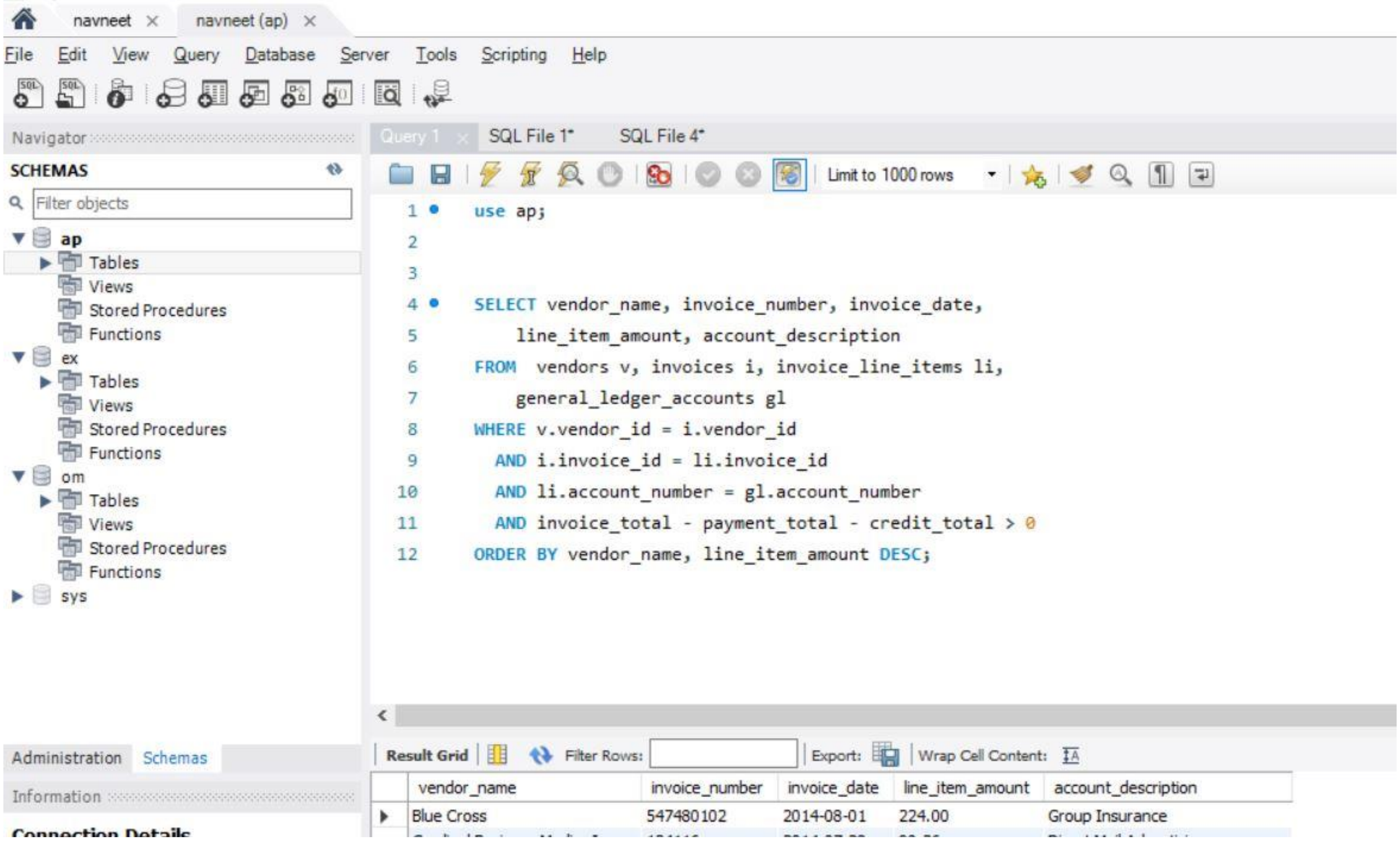
WHERE v.vendor_id = i.vendor_id

AND i.invoice_id = li.invoice_id

AND li.account_number = gl.account_number

AND invoice_total - payment_total - credit_total > 0

ORDER BY vendor_name, line_item_amount **DESC;**



```
use ap;


SELECT vendor_name, invoice_number, invoice_date,
    line_item_amount, account_description
FROM  vendors v, invoices i, invoice_line_items li,
    general_ledger_accounts gl
WHERE v.vendor_id = i.vendor_id
  AND i.invoice_id = li.invoice_id
  AND li.account_number = gl.account_number
  AND invoice_total - payment_total - credit_total > 0
ORDER BY vendor_name, line_item_amount DESC;
```

vendor_name	invoice_number	invoice_date	line_item_amount	account_description
Blue Cross	547480102	2014-08-01	224.00	Group Insurance

8) LEFT JOIN

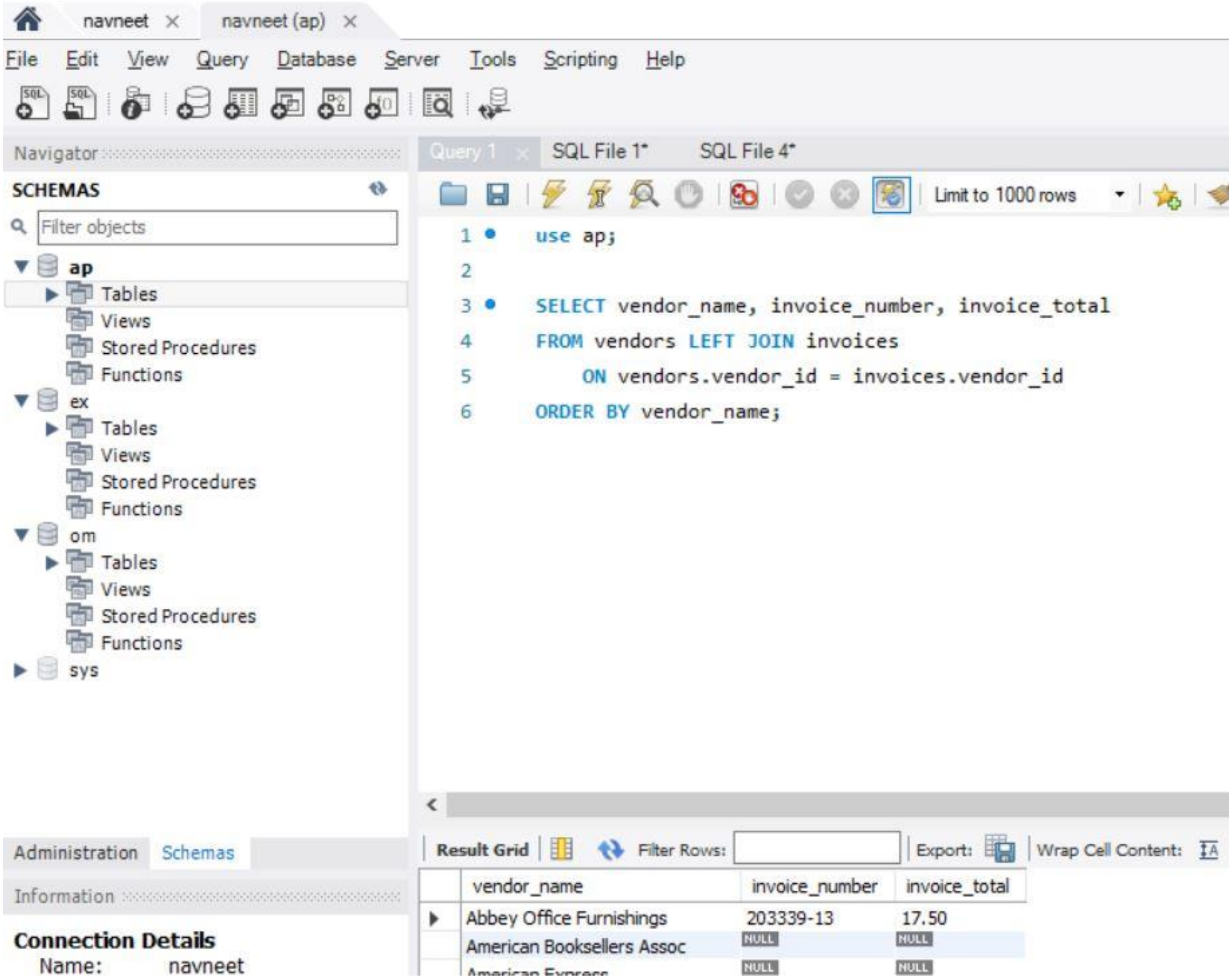
SELECT vendor_name, invoice_number, invoice_total

FROM vendors **LEFT JOIN** invoices

ON vendors.vendor_id = invoices.vendor_id

ORDER BY vendor_name**;**

Answer:



```
use ap;

SELECT vendor_name, invoice_number, invoice_total
FROM vendors LEFT JOIN invoices
    ON vendors.vendor_id = invoices.vendor_id
ORDER BY vendor_name;
```

	vendor_name	invoice_number	invoice_total
▶	Abbey Office Furnishings	203339-13	17.50
	American Booksellers Assoc	NULL	NULL
	American Express	NULL	NULL

Connection Details
Name: navneet

9)JOIN ,LEFT JOIN

i)SELECT department_name, d.department_number, last_name

FROM departments d

LEFT JOIN employees e

ON d.department_number = e.department_number

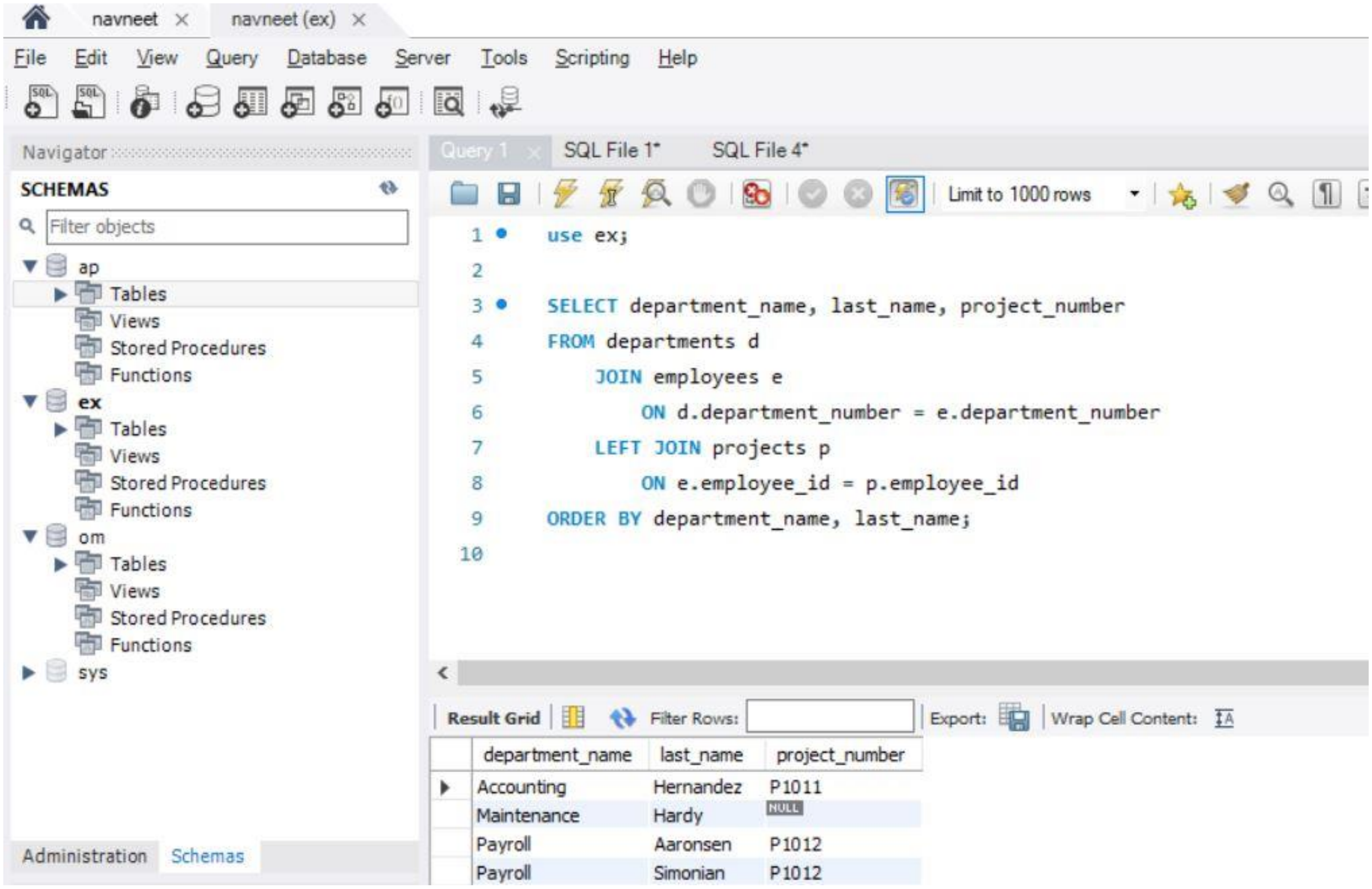
ORDER BY department_name;

ii)SELECT department_name, e.department_number, last_name

```
FROM departments d
   RIGHT JOIN employees e
   ON d.department_number = e.department_number
ORDER BY department_name;
```

```
iii)SELECT department_name, last_name, project_number
FROM departments d
   LEFT JOIN employees e
      ON d.department_number = e.department_number
   LEFT JOIN projects p
      ON e.employee_id = p.employee_id
ORDER BY department_name, last_name;
```

```
iv)SELECT department_name, last_name, project_number
FROM departments d
   JOIN employees e
      ON d.department_number = e.department_number
   LEFT JOIN projects p
      ON e.employee_id = p.employee_id
ORDER BY department_name, last_name;
```

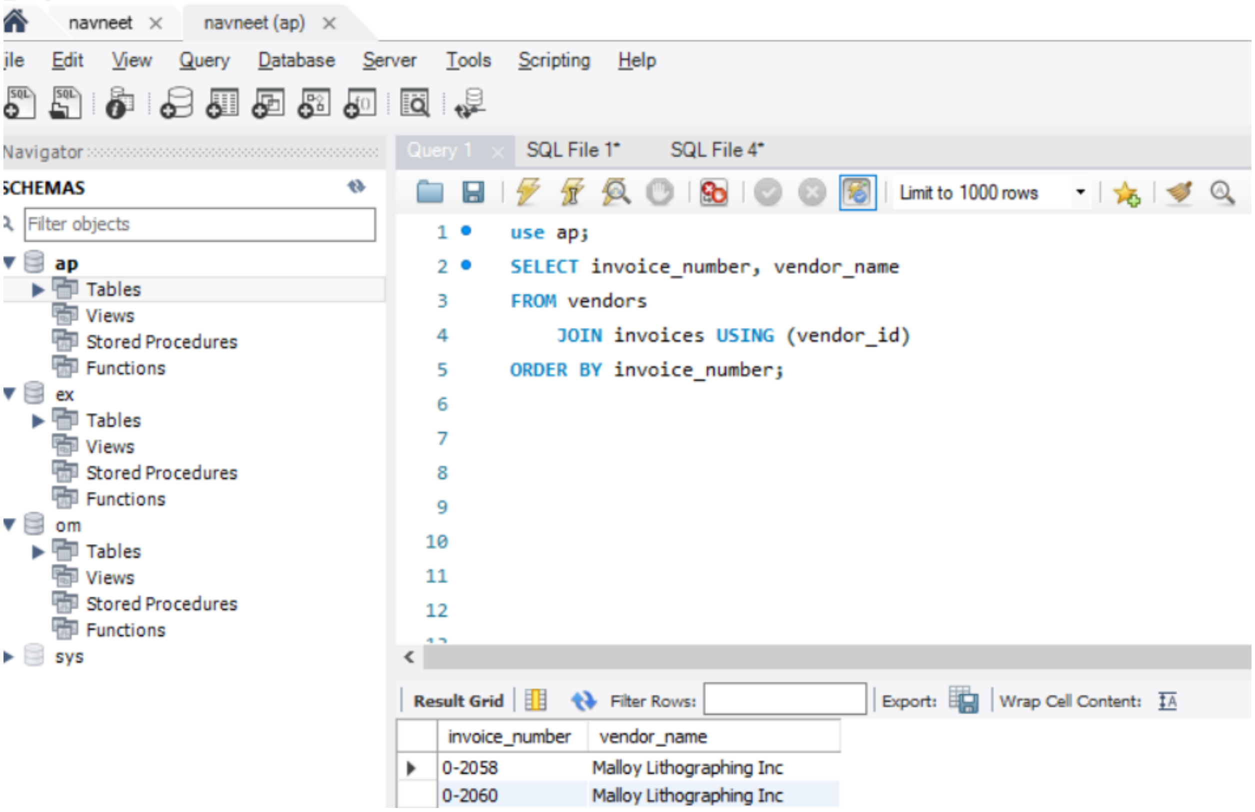


```
use ex;

SELECT department_name, last_name, project_number
FROM departments d
    JOIN employees e
        ON d.department_number = e.department_number
    LEFT JOIN projects p
        ON e.employee_id = p.employee_id
ORDER BY department_name, last_name;
```

department_name	last_name	project_number
Accounting	Hernandez	P1011
Maintenance	Hardy	NULL
Payroll	Aaronsen	P1012
Payroll	Simonian	P1012

10) JOIN,LEFT JOIN,USING,ORDER BY

```
i)SELECT invoice_number, vendor_name

FROM vendors

   JOIN invoices USING (vendor_id)

ORDER BY invoice_number;
```



```sql
use ap;
SELECT invoice_number, vendor_name
FROM vendors
    JOIN invoices USING (vendor_id)
ORDER BY invoice_number;
```

invoice_number	vendor_name
0-2058	Malloy Lithographing Inc
0-2060	Malloy Lithographing Inc

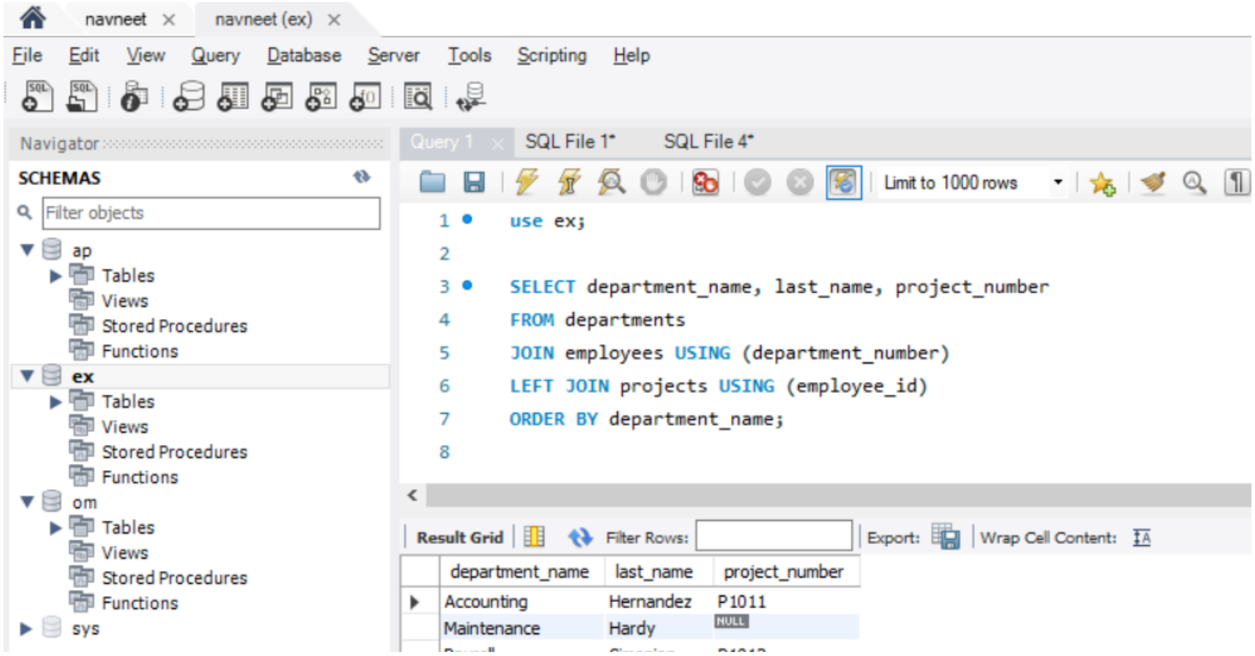
ii)SELECT department_name, last_name, project_number

FROM departments

   JOIN employees **USING (department_number)**

   LEFT JOIN projects **USING (employee_id)**

ORDER BY department_name**;**



```
use ex;

SELECT department_name, last_name, project_number
FROM departments
JOIN employees USING (department_number)
LEFT JOIN projects USING (employee_id)
ORDER BY department_name;
```

department_name	last_name	project_number
Accounting	Hernandez	P1011
Maintenance	Hardy	NULL

11) NATURAL JOIN

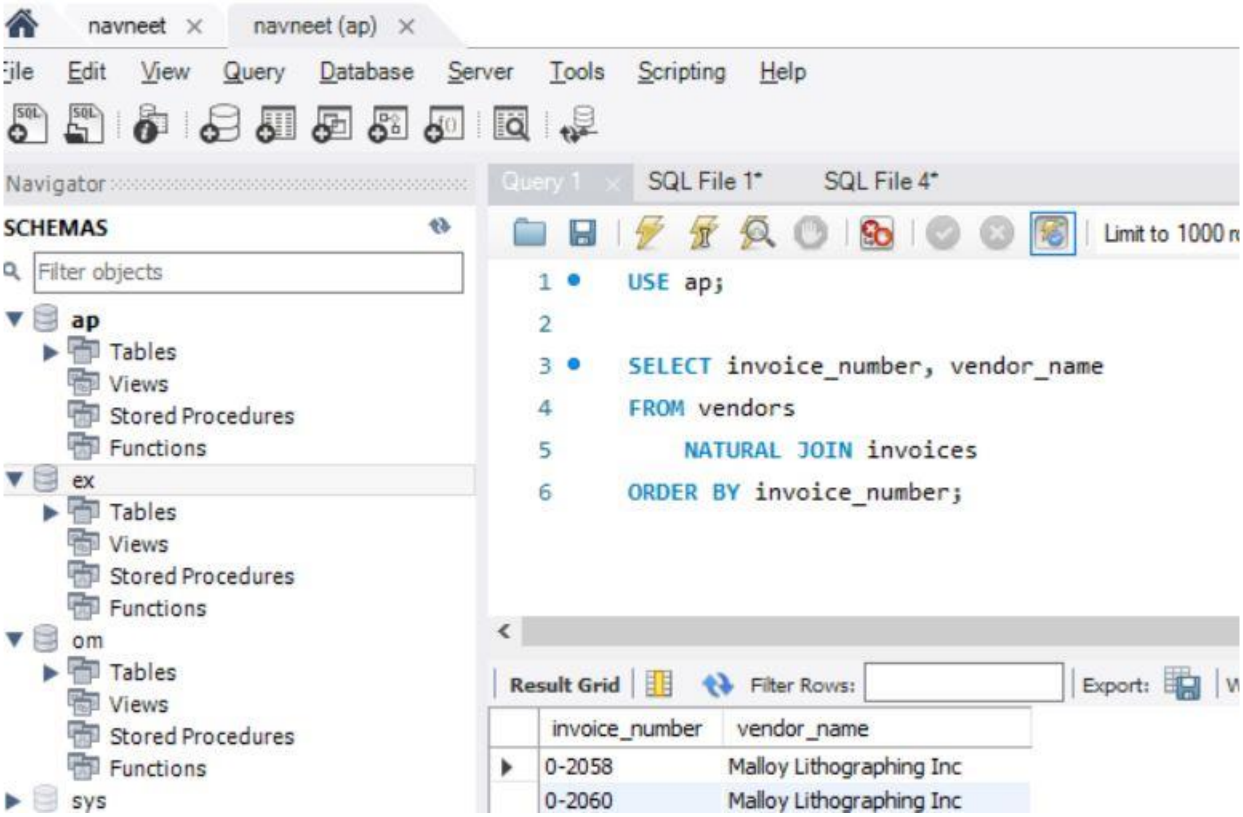
i) **USE ap;**

SELECT invoice_number, vendor_name

FROM vendors

NATURAL JOIN invoices

ORDER BY invoice_number**;**

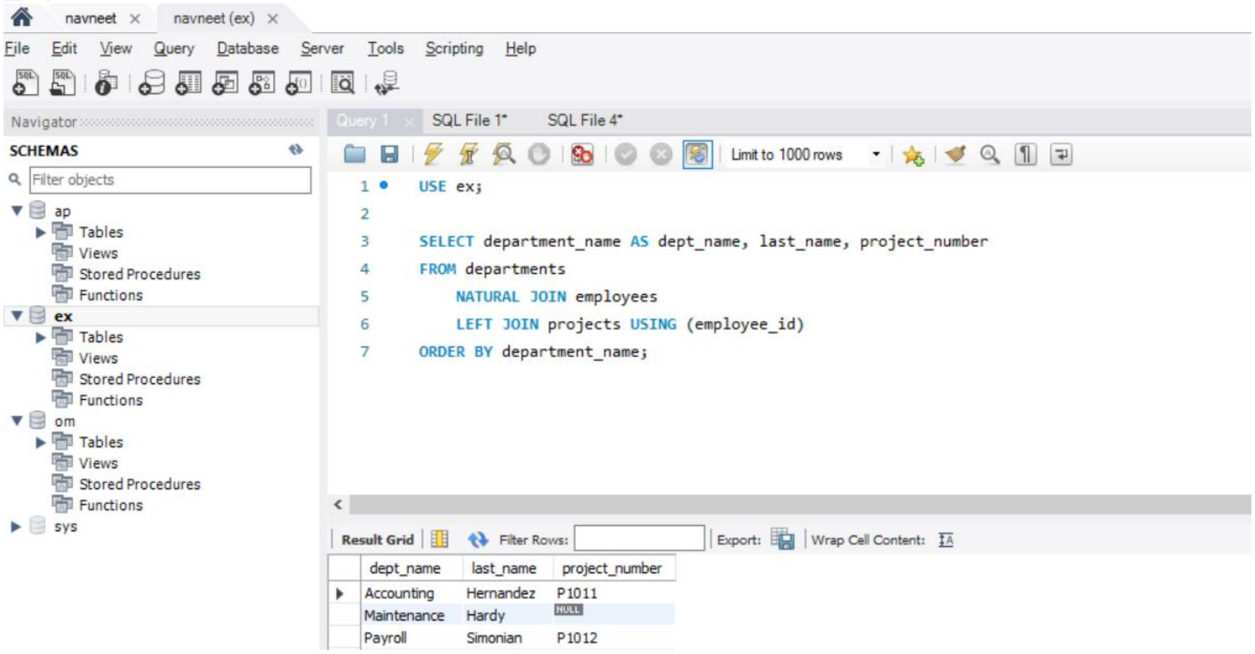


```
USE ap;

SELECT invoice_number, vendor_name
FROM vendors
    NATURAL JOIN invoices
ORDER BY invoice_number;
```

invoice_number	vendor_name
0-2058	Malloy Lithographing Inc
0-2060	Malloy Lithographing Inc

ii)USE ex;

```
SELECT department_name AS dept_name, last_name, project_number
FROM departments
   NATURAL JOIN employees
   LEFT JOIN projects USING (employee_id)
ORDER BY department_name;
```



```
USE ex;

SELECT department_name AS dept_name, last_name, project_number
FROM departments
    NATURAL JOIN employees
    LEFT JOIN projects USING (employee_id)
ORDER BY department_name;
```

dept_name	last_name	project_number
Accounting	Hernandez	P1011
Maintenance	Hardy	NULL
Payroll	Simonian	P1012

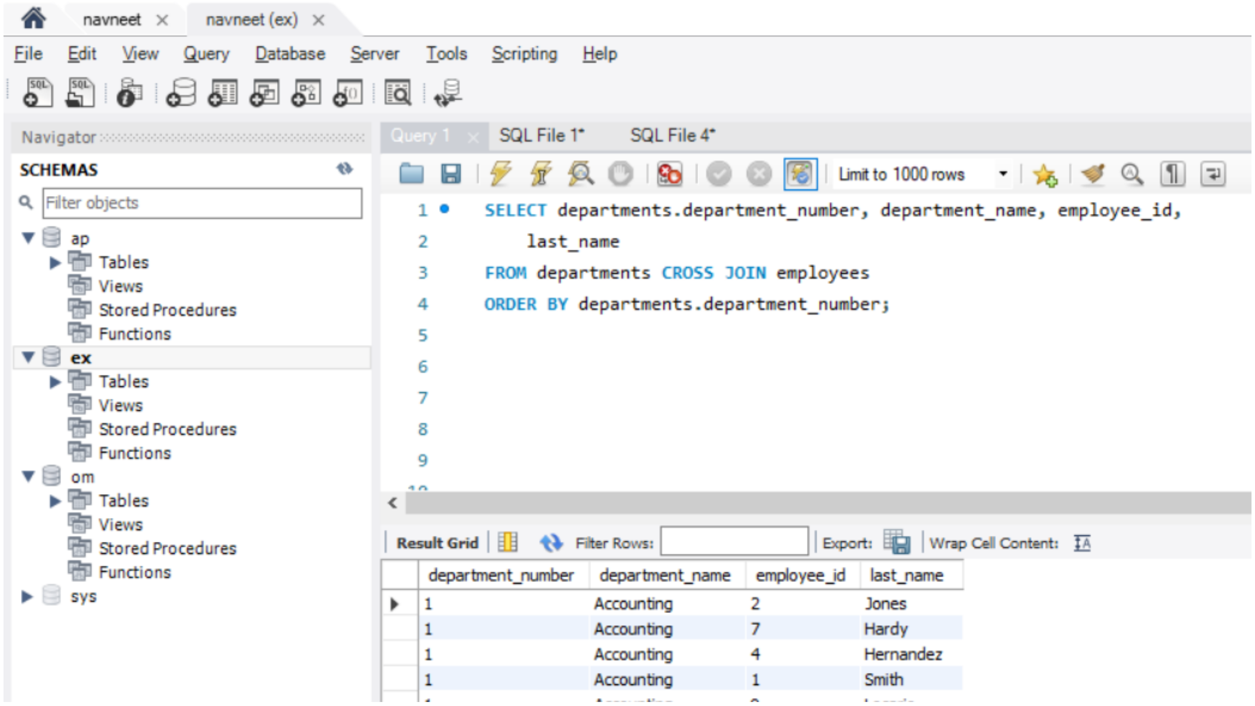
12)CROSS JOIN

i)**SELECT** departments.department_number, department_name, employee_id,

last_name

FROM departments **CROSS JOIN** employees

ORDER BY departments.department_number**;**



```
SELECT departments.department_number, department_name, employee_id,
    last_name
FROM departments CROSS JOIN employees
ORDER BY departments.department_number;
```

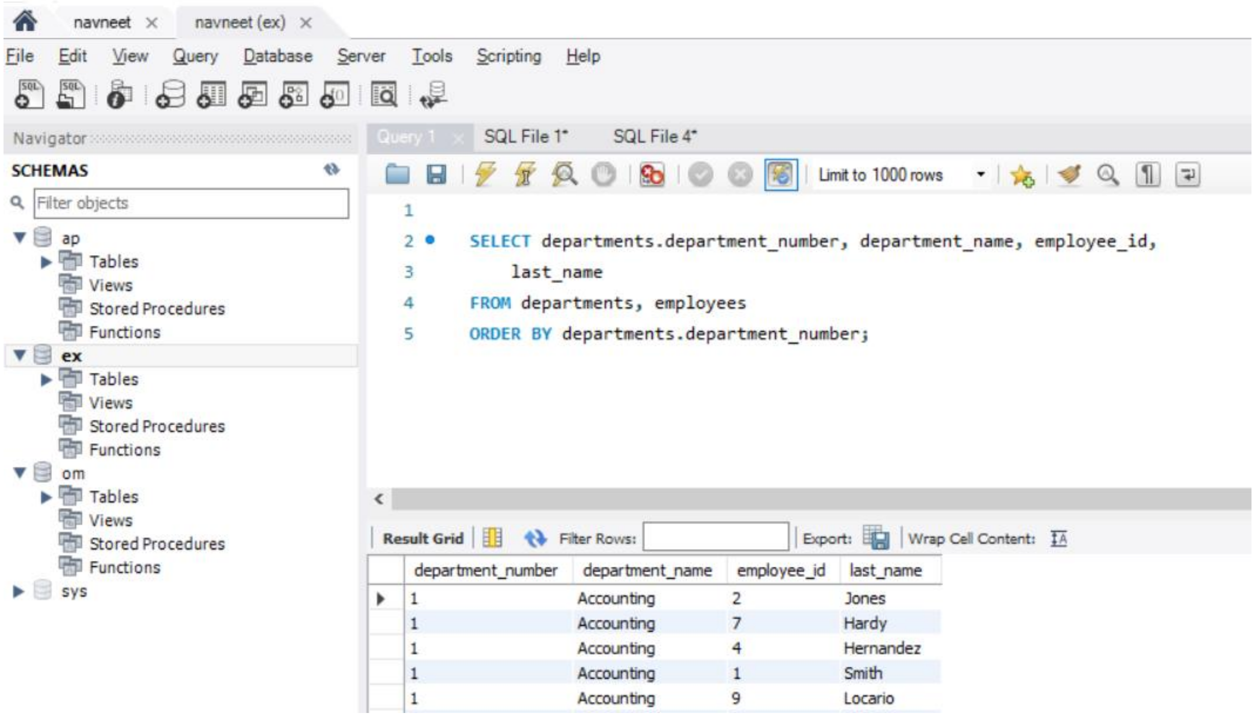
department_number	department_name	employee_id	last_name
1	Accounting	2	Jones
1	Accounting	7	Hardy
1	Accounting	4	Hernandez
1	Accounting	1	Smith

ii)SELECT departments.department_number, department_name, employee_id,

last_name

FROM departments, employees

ORDER BY departments.department_number;



```
SELECT departments.department_number, department_name, employee_id,
    last_name
FROM departments, employees
ORDER BY departments.department_number;
```

department_number	department_name	employee_id	last_name
1	Accounting	2	Jones
1	Accounting	7	Hardy
1	Accounting	4	Hernandez
1	Accounting	1	Smith
1	Accounting	9	Locario

13) **UNION**

SELECT 'Active' AS source, invoice_number, invoice_date, invoice_total

FROM active_invoices

WHERE invoice_date >= '2014-06-01'

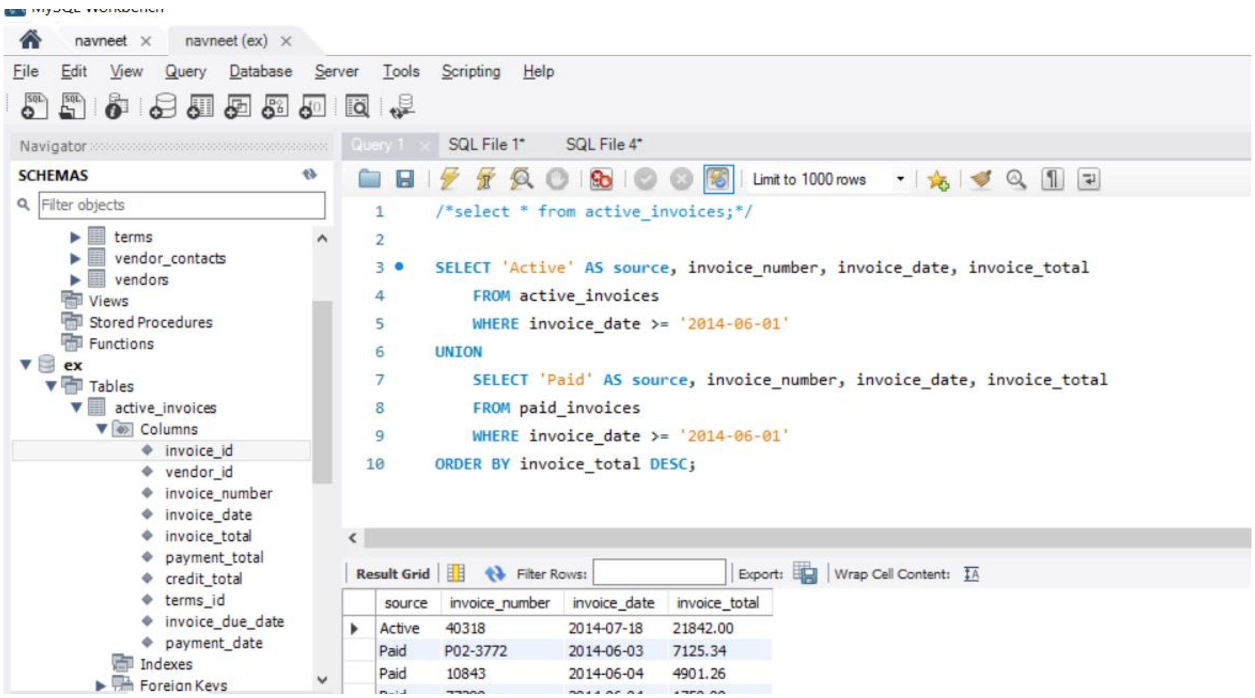
UNION

SELECT 'Paid' AS source, invoice_number, invoice_date, invoice_total

FROM paid_invoices

WHERE invoice_date >= '2014-06-01'

ORDER BY invoice_total **DESC;**



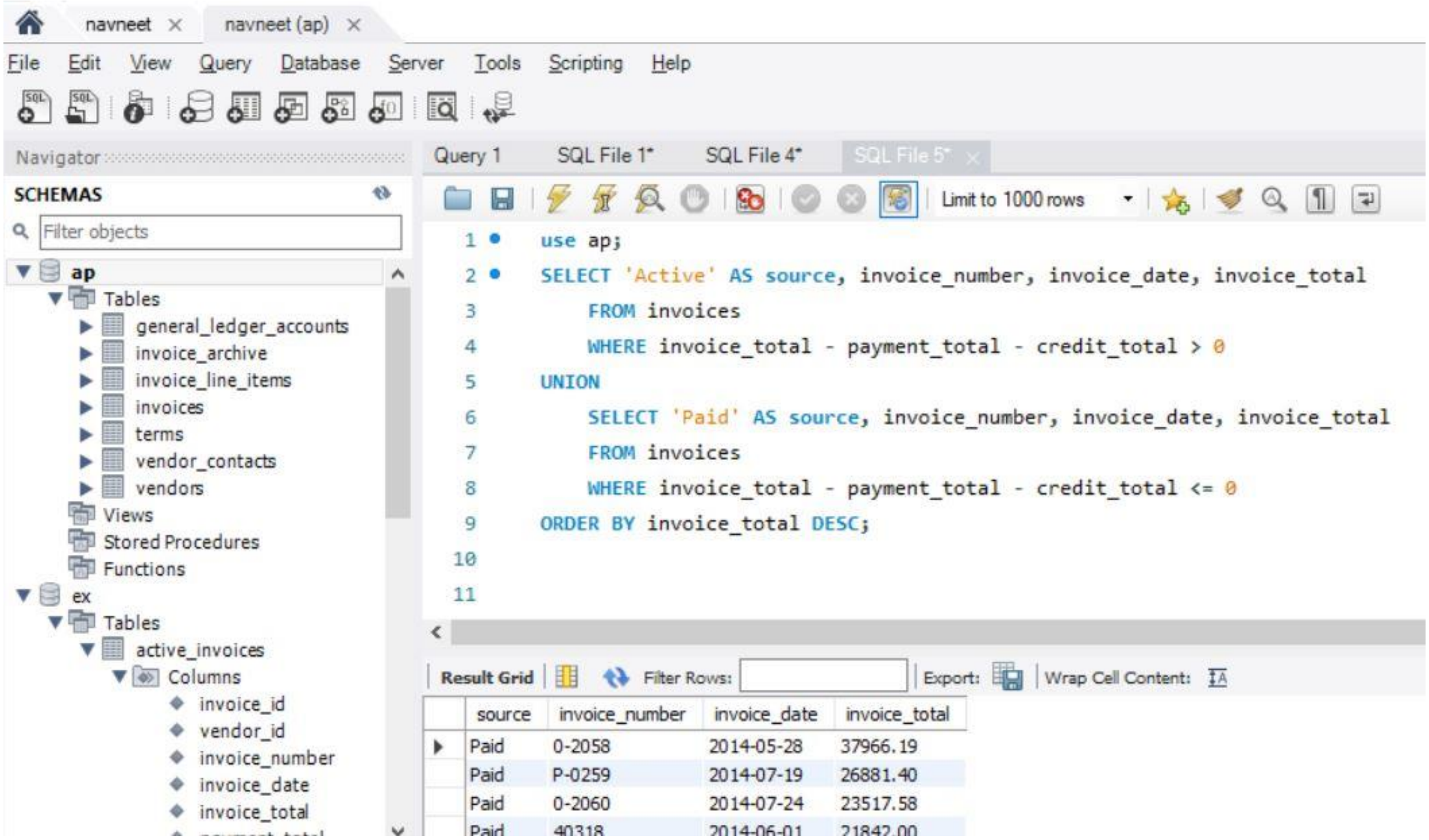
```
/*select * from active_invoices;*/

SELECT 'Active' AS source, invoice_number, invoice_date, invoice_total
    FROM active_invoices
    WHERE invoice_date >= '2014-06-01'
UNION
    SELECT 'Paid' AS source, invoice_number, invoice_date, invoice_total
    FROM paid_invoices
    WHERE invoice_date >= '2014-06-01'
ORDER BY invoice_total DESC;
```

source	invoice_number	invoice_date	invoice_total
Active	40318	2014-07-18	21842.00
Paid	P02-3772	2014-06-03	7125.34
Paid	10843	2014-06-04	4901.26

14)JOIN,UNION

```
 SELECT 'Active' AS source, invoice_number, invoice_date, invoice_total

   FROM invoices

   WHERE invoice_total - payment_total - credit_total > 0

UNION

   SELECT 'Paid' AS source, invoice_number, invoice_date, invoice_total

   FROM invoices

   WHERE invoice_total - payment_total - credit_total <= 0
```

ORDER BY invoice_total **DESC;**



```
use ap;
SELECT 'Active' AS source, invoice_number, invoice_date, invoice_total
    FROM invoices
    WHERE invoice_total - payment_total - credit_total > 0
UNION
    SELECT 'Paid' AS source, invoice_number, invoice_date, invoice_total
    FROM invoices
    WHERE invoice_total - payment_total - credit_total <= 0
ORDER BY invoice_total DESC;
```

source	invoice_number	invoice_date	invoice_total
Paid	0-2058	2014-05-28	37966.19
Paid	P-0259	2014-07-19	26881.40
Paid	0-2060	2014-07-24	23517.58
Paid	40318	2014-06-01	21842.00

ii) SELECT invoice_number, vendor_name, '33% Payment' AS payment_type,

invoice_total AS total, invoice_total * 0.333 AS payment

FROM invoices **JOIN** vendors

ON invoices.vendor_id = vendors.vendor_id

WHERE invoice_total > 10000

UNION

SELECT invoice_number, vendor_name, '50% Payment' AS payment_type,

invoice_total AS total, invoice_total * 0.5 AS payment

FROM invoices **JOIN** vendors

ON invoices.vendor_id = vendors.vendor_id

WHERE invoice_total BETWEEN 500 AND 10000

UNION

SELECT invoice_number, vendor_name, 'Full amount' AS payment_type,

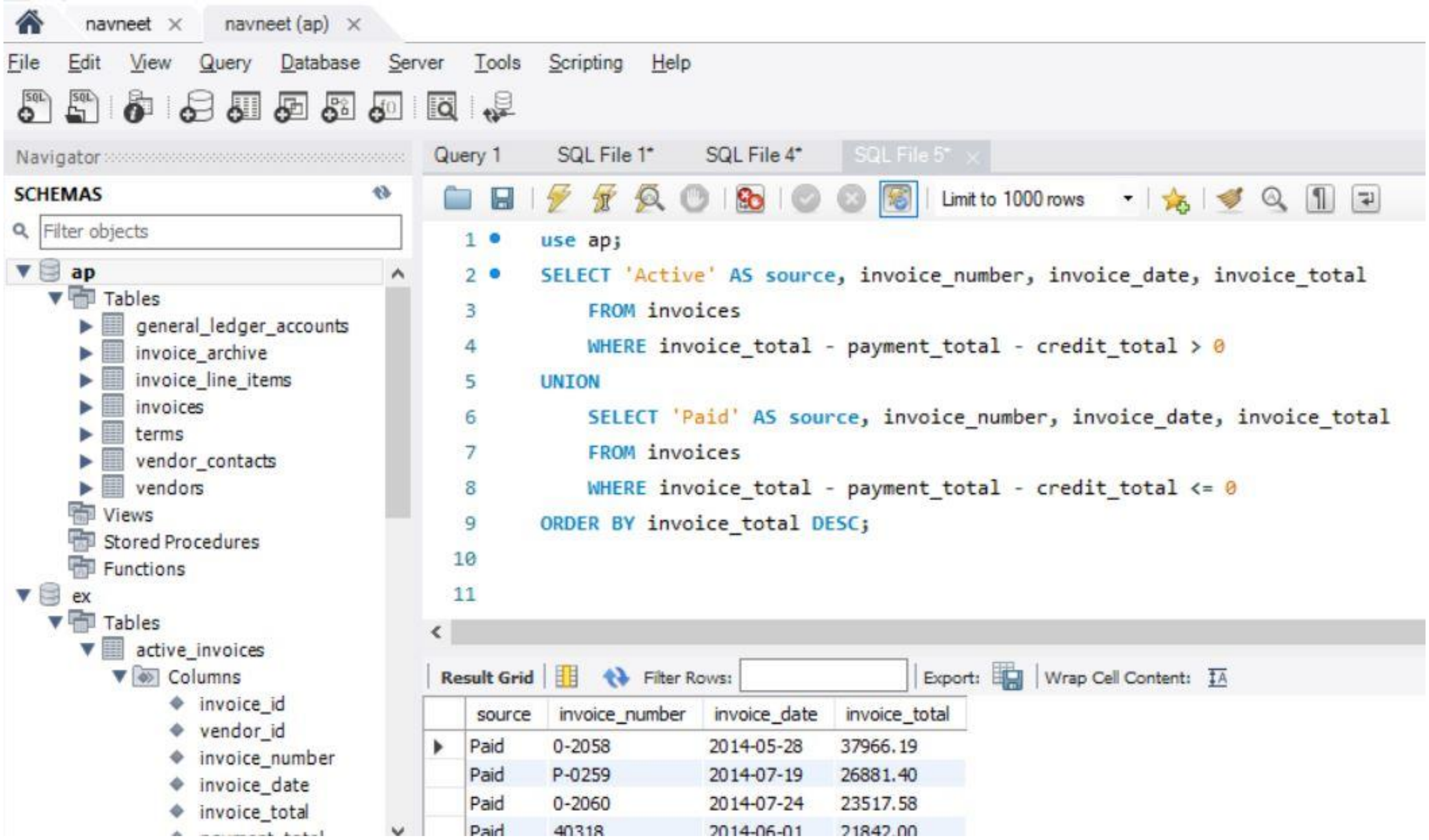
invoice_total AS total, invoice_total AS payment

FROM invoices **JOIN** vendors

ON invoices.vendor_id = vendors.vendor_id

WHERE invoice_total < 500

ORDER BY payment_type, vendor_name, invoice_number;



```
use ap;
SELECT 'Active' AS source, invoice_number, invoice_date, invoice_total
    FROM invoices
    WHERE invoice_total - payment_total - credit_total > 0
UNION
    SELECT 'Paid' AS source, invoice_number, invoice_date, invoice_total
    FROM invoices
    WHERE invoice_total - payment_total - credit_total <= 0
ORDER BY invoice_total DESC;
```

source	invoice_number	invoice_date	invoice_total
Paid	0-2058	2014-05-28	37966.19
Paid	P-0259	2014-07-19	26881.40
Paid	0-2060	2014-07-24	23517.58
Paid	40318	2014-06-01	21842.00

15) LEFT JOIN,UNION,RIGHT JOIN

SELECT department_name AS dept_name, d.department_number AS d_dept_no,

e.department_number AS e_dept_no, last_name

FROM departments d

LEFT JOIN employees e

ON d.department_number = e.department_number

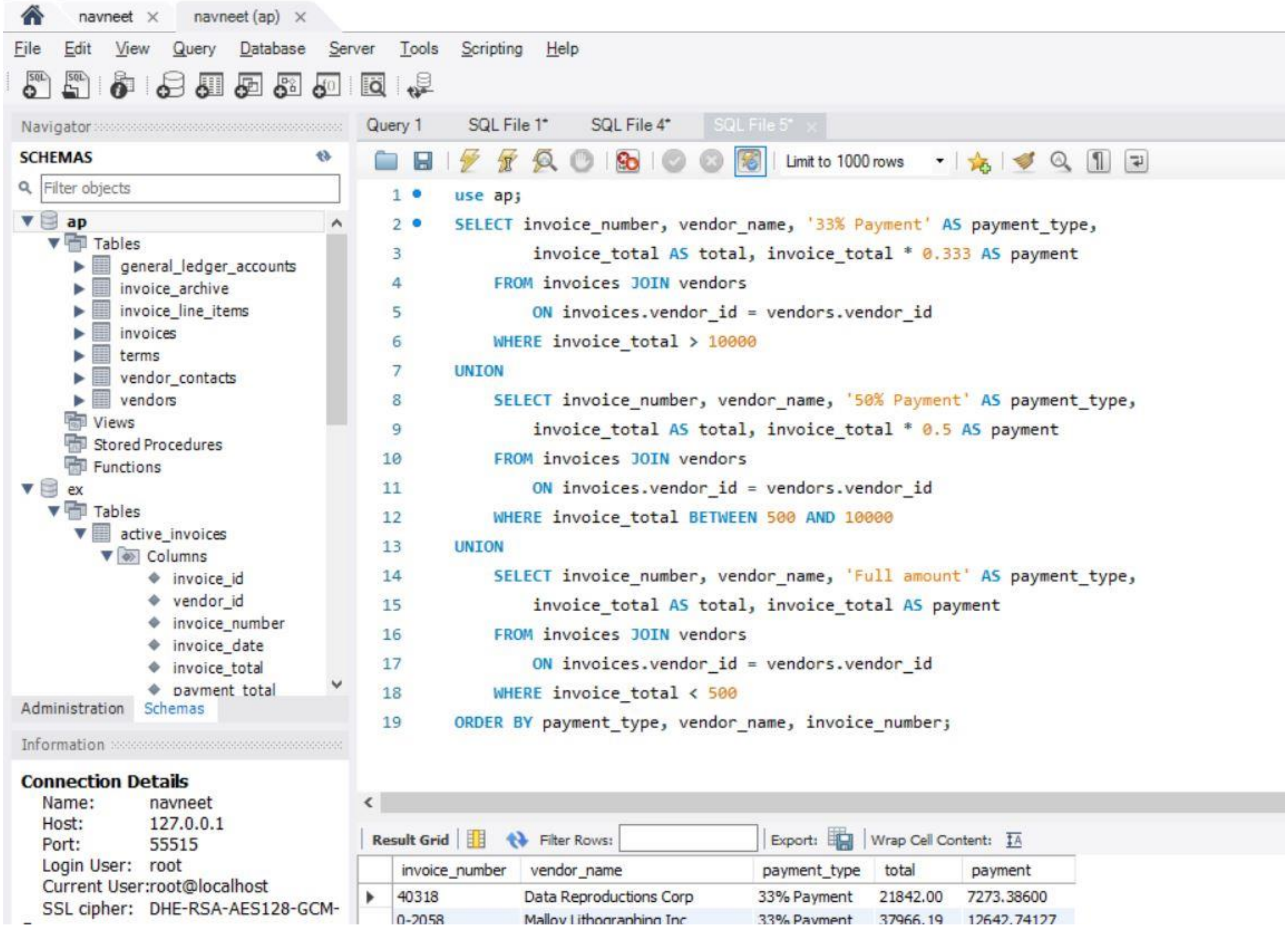
UNION

SELECT department_name AS dept_name, d.department_number AS d_dept_no,

e.department_number AS e_dept_no, last_name

```
  FROM departments d
    RIGHT JOIN employees e
    ON d.department_number = e.department_number
ORDER BY dept_name;
```

Answer:



```
use ap;
SELECT invoice_number, vendor_name, '33% Payment' AS payment_type,
    invoice_total AS total, invoice_total * 0.333 AS payment
  FROM invoices JOIN vendors
    ON invoices.vendor_id = vendors.vendor_id
  WHERE invoice_total > 10000
UNION
  SELECT invoice_number, vendor_name, '50% Payment' AS payment_type,
    invoice_total AS total, invoice_total * 0.5 AS payment
  FROM invoices JOIN vendors
    ON invoices.vendor_id = vendors.vendor_id
  WHERE invoice_total BETWEEN 500 AND 10000
UNION
  SELECT invoice_number, vendor_name, 'Full amount' AS payment_type,
    invoice_total AS total, invoice_total AS payment
  FROM invoices JOIN vendors
    ON invoices.vendor_id = vendors.vendor_id
  WHERE invoice_total < 500
ORDER BY payment_type, vendor_name, invoice_number;
```

invoice_number	vendor_name	payment_type	total	payment
40318	Data Reproductions Corp	33% Payment	21842.00	7273.38600
0-2058	Malloy Lithographing Inc	33% Payment	37966.19	12642.74127

Connection Details
Name: navneet
Host: 127.0.0.1
Port: 55515
Login User: root
Current User:root@localhost
SSL cipher: DHE-RSA-AES128-GCM-