

6.1

Query 1

```

1 select vendor_id, sum(invoice_total) as invoice_total_sum
2 from invoices
3 group by vendor_id;
4
5

```

Result Grid

vendor_id	invoice_total_sum
32	434.58
34	1200.12
37	564.00
48	856.92
72	21927.31
80	265.36
81	936.93
82	600.00
83	2154.42
86	2433.00
88	207.78

Result 1

6.2

```

5 select vendor_name, sum(payment_total) as payment_total_sum
6 from vendors v join invoices i
7 on v.vendor_id = i.vendor_id
8 group by vendor_name
9 order by payment_total_sum desc;
10

```

Result Grid

vendor_name	payment_total_sum
Mallov Lithocephing Inc	86069.22
United Parcel Service	23177.96
Data Reproductions Corp	21842.00
Digital Dreamworks	7125.34
Bertelsmann Industr Svcs. Inc	6940.25
Zvika Desion	6740.25
Yesmed. Inc	4901.26
Federal Exress Corporation	4167.13
Computerworld	2433.00
Cahners Publishing Companv	2184.50
Drillstar	1750.00

Result 2

Output

6.3

```

9 order by payment_total_sum desc;
10
11 select vendor_name, count(*) as invoice_count,
12        sum(invoice_total) as invoice_total_sum
13 from vendors v join invoices i
14 on v.vendor_id = i.vendor_id
15 group by vendor_name
16 order by invoice_count desc;
17
18

```

Result Grid

vendor_name	invoice_count	invoice_total_sum
Federal Exress Corporation	47	4378.02
United Parcel Service	9	23177.96
Zvika Desion	8	6940.25
Pacific Bell	6	171.01
Mallov Lithocephing Inc	5	119892.41
Roadwavi Package System. Inc	4	43.67
Blue Cross	3	564.00
Inoram	2	2154.42
IBM	2	1200.12
Cardinal Business Media. Inc.	2	265.36
Data Reproductions Corp	2	21842.00

Result 3

6.4

SQL Developer interface showing a query and its results. The query is as follows:

```

17 select account_description, count(*) as line_item_count,
18      sum(line_item_amount) as line_item_amount_sum
19 from general_ledger_accounts gl
20 join invoice_line_items li
21   on gl.account_number = li.account_number
22 group by account_description
23 having line_item_count > 1
24 order by line_item_amount_sum desc;
25
26

```

The results are displayed in a table with the following data:

account_description	line_item_count	line_item_amount_sum
Book Printing Costs	8	148759.97
Freight	60	27599.65
Outside Services	3	13394.10
Book Production Costs	8	6175.12
Books, Dues, and Subscriptions	6	5207.32
Direct Mail Advertising	6	3900.77
Computer Equipment	4	2317.28
Group Insurance	3	564.00
Telephone	7	266.01
Office Supplies	3	175.80

Result 4 x Read Only

6.5

SQL Developer interface showing a query and its results. The query is as follows:

```

27 select account_description, count(*) as line_item_count,
28      sum(line_item_amount) as line_item_amount_sum
29 from general_ledger_accounts gl
30 join invoice_line_items li
31   on gl.account_number = li.account_number
32 join invoices i
33   on li.invoice_id = i.invoice_id
34 where invoice_date between '2014-04-01' and '2014-06-30'
35 group by account_description
36 having line_item_count > 1
37 order by line_item_amount_sum desc;
38

```

The results are displayed in a table with the following data:

account_description	line_item_count	line_item_amount_sum
Book Printing Costs	3	66748.44
Freight	41	17624.19
Outside Services	3	13394.10
Book Production Costs	7	5174.66
Books, Dues, and Subscriptions	4	4027.90
Direct Mail Advertising	5	3810.41
Computer Equipment	3	2137.05
Group Insurance	2	340.00
Telephone	5	193.54

Result 5 x Read Only

6.6

SQL Developer interface showing two queries and their results. The first query is as follows:

```

34 where invoice_date between '2014-04-01' and '2014-06-30'
35 group by account_description
36 having line_item_count > 1
37 order by line_item_amount_sum desc;
38

```

The second query is as follows:

```

39 select account_number, sum(line_item_amount) as line_item_sum
40 from invoice_line_items
41 group by account_number with rollup;
42
43
44
45

```

The results are displayed in a table with the following data:

account_number	line_item_sum
150	17.50
160	2317.28
170	356.48
400	148759.97
403	6175.12
507	1600.00
510	564.00
520	1750.00
571	16.67

Result 6 x Read Only

6.7

The screenshot shows a SQL query editor with the following query:

```
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;
```

Below the query editor, the results are displayed in a table:

vendor_name	number_of_gl_accounts
RR Bowker	2
Wells Fargo Bank	3
Zvika Design	2

The interface includes a toolbar at the top with icons for file operations, a 'Limit to 1000 rows' dropdown, and a 'Filter Rows' input. On the right, there are buttons for 'Result Grid', 'Form Editor', and 'Read Only'.

7.1

The screenshot shows a SQL query editor with the following query:

```
select vendor_name  
from vendors  
where vendor_id in  
      (select distinct vendor_id from invoices)  
order by vendor_name;
```

Below the query editor, the results are displayed in a table:

vendor_name
Abbey Office Furnishings
Bertelsmann Industr Svcs, Inc
Blue Cross
Cahners Publishing Company
Cardinal Business Media, Inc.
Coffee Break Service
Comuserve

The interface includes a toolbar at the top with icons for file operations, a 'Limit to 1000 rows' dropdown, and a 'Filter Rows' input. On the right, there are buttons for 'Result Grid', 'Form Editor', and 'Read Only'.

7.2

The screenshot shows a SQL IDE with two queries. The first query selects vendor names from vendors where the vendor ID is in a list of distinct vendor IDs from invoices, ordered by vendor name. The second query selects invoice numbers and totals from invoices where the payment total is greater than the average payment total of invoices with a payment total greater than 0, ordered by invoice total in descending order.

```
1 select vendor_name
2 from vendors
3 where vendor_id in
4     (select distinct vendor_id from invoices)
5 order by vendor_name;
6
7 select invoice_number, invoice_total
8 from invoices
9 where payment_total >
10     (select avg(payment_total)
11      from invoices
12      where payment_total > 0)
13 order by invoice_total desc;
14
```

The result grid shows the following data:

invoice_number	invoice_total
0-2058	37966.19
P-0259	26881.40
0-2060	23517.58
40318	21842.00
P02-3772	7125.34
509786	6940.25
10843	4901.26

7.3

The screenshot shows a SQL IDE with a query that selects account numbers and descriptions from general ledger accounts where they do not exist in invoice line items. The results show a list of account numbers and their descriptions.

```
14
15
16 select account_number, account_description
17 from general_ledger_accounts gl
18 where not exists
19     (select *
20      from invoice_line_items
21      where account_number = gl.account_number)
22 order by account_number;
23
24
25
26
```

The result grid shows the following data:

account_number	account_description
100	Cash
110	Accounts Receivable
120	Book Inventory
162	Capitalized Lease
167	Software
181	Book Development
200	Accounts Payable

7.4

The screenshot shows a SQL query in the editor window:

```
23
24 • select vendor_name, i.invoice_id, invoice_sequence, line_item_amount
25 from vendors v join invoices i
26 on v.vendor_id = i.vendor_id
27 join invoice_line_items li
28 on i.invoice_id = li.invoice_id
29 where i.invoice_id in
30 (select distinct invoice_id
31 from invoice_line_items
32 where invoice_sequence > 1)
33 order by vendor_name, i.invoice_id, invoice_sequence;
34
35
36
```

Below the query, the "Result Grid" displays the following data:

vendor_name	invoice_id	invoice_sequence	line_item_amount
RR Bowker	115	1	180.23
RR Bowker	115	2	254.35
Wells Fargo Bank	12	1	50.00
Wells Fargo Bank	12	3	75.60
Wells Fargo Bank	12	4	58.40
Wells Fargo Bank	12	4	478.00
Zvilka Design	78	1	1197.00

Result 4 x

7.5

The screenshot shows a SQL query in the editor window:

```
31
32 from invoice_line_items
33 where invoice_sequence > 1)
34 order by vendor_name, i.invoice_id, invoice_sequence;
35 • select sum(invoice_max) as sum_of_maximums
36 from (select vendor_id, max(invoice_total) as invoice_max
37 from invoices
38 where invoice_total - credit_total - payment_total > 0
39 group by vendor_id) t;
40
41
42
43
44
```

Below the query, the "Result Grid" displays the following data:

sum_of_maximums
22101.39

Result 6 x

7.6

The screenshot shows a SQL query in the editor window:

```
39
40 group by vendor_id) t;
41
42 • select vendor_name, vendor_city, vendor_state
43 from vendors
44 where concat(vendor_state, vendor_city) not in
45 (select concat(vendor_state, vendor_city) as vendor_city_state
46 from vendors
47 group by vendor_city_state
48 having count(*) > 1)
49 order by vendor_state, vendor_city;
50
51
52
```

Below the query, the "Result Grid" displays the following data:

vendor_name	vendor_city	vendor_state
Diversified Printing & Pub	Brea	CA
Vision Envelope & Printing	Gardena	CA
Texaco	Indlewood	CA
Publishers Marketing Assoc	Manhattan Beach	CA
Blanchard & Johnson Associates	Mission Viejo	CA
Blue Cross	Oxnard	CA
Golden Eagle Insurance Co	San Diego	CA

vendors 7 x

7.7

The screenshot shows a SQL IDE window with a query editor and a results grid. The query is as follows:

```
select vendor_name, invoice_number,
       invoice_date, invoice_total
from invoices i join vendors v
on i.vendor_id = v.vendor_id
where invoice_date =
  (select min(invoice_date)
   from invoices
   where vendor_id = i.vendor_id)
order by vendor_name
```

The results grid displays the following data:

vendor_name	invoice_number	invoice_date	invoice_total
Abbev Office Furnishings	203339-13	2014-07-05	17.50
Bertelsmann Industr Svcs. Inc	509786	2014-06-18	6940.25
Blue Cross	547481328	2014-06-03	224.00
Cahners Publishing Companv	587056	2014-06-30	2184.50
Cardinal Business Media. Inc.	133560	2014-06-22	175.00
Coffee Break Service	109596	2014-06-24	41.80
Comuserve	21-4748363	2014-05-03	9.95

Result 8

7.8

The screenshot shows a SQL IDE window with a query editor and a results grid. The query is as follows:

```
select vendor_name, invoice_number,
       invoice_date, invoice_total
from invoices i
join
  (select vendor_id, min(invoice_date) as oldest_invoice_date
   from invoices
   group by vendor_id) oi
on i.vendor_id = oi.vendor_id and
i.invoice_date = oi.oldest_invoice_date
join vendors v
on i.vendor_id = v.vendor_id
order by vendor_name;
```

The results grid displays the following data:

vendor_name	invoice_number	invoice_date	invoice_total
Abbev Office Furnishings	203339-13	2014-07-05	17.50
Bertelsmann Industr Svcs. Inc	509786	2014-06-18	6940.25
Blue Cross	547481328	2014-06-03	224.00
Cahners Publishing Companv	587056	2014-06-30	2184.50
Cardinal Business Media. Inc.	133560	2014-06-22	175.00
Coffee Break Service	109596	2014-06-24	41.80

Result 9