Scalar Subqueries - Exercises

Exercise 1: Create a query that displays all rows and the following columns from the AdventureWorks2019.HumanResources.Employee table:

BusinessEntityID

JobTitle

VacationHours

Also include a derived column called "MaxVacationHours" that returns the maximum amount of vacation hours for any one employee, in any given row.

Answer:

Select

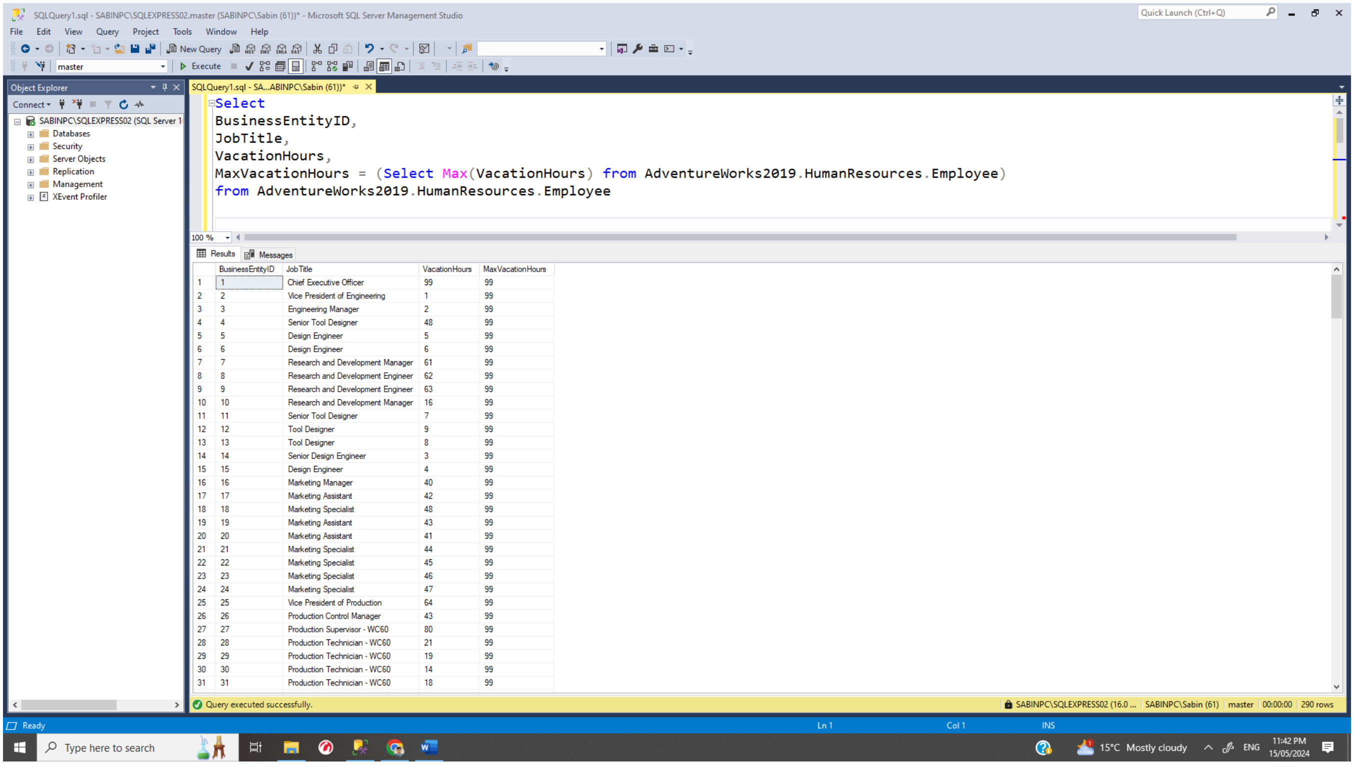
BusinessEntityID,

JobTitle,

VacationHours,

MaxVacationHours = (Select Max(VacationHours) from AdventureWorks2019.HumanResources.Employee)

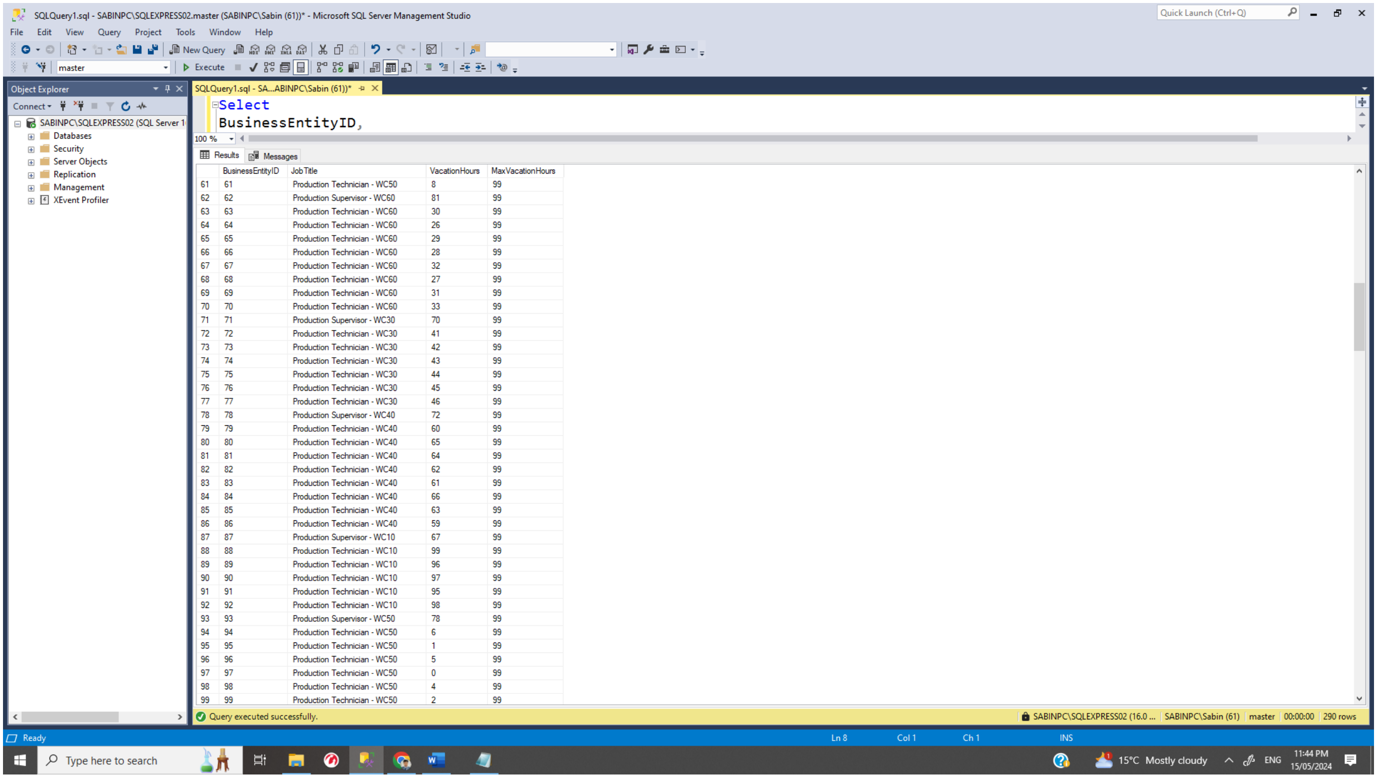
from AdventureWorks2019.HumanResources.Employee



```
Select
BusinessEntityID,
JobTitle,
VacationHours,
MaxVacationHours = (Select Max(VacationHours) from AdventureWorks2019.HumanResources.Employee)
from AdventureWorks2019.HumanResources.Employee
```

	BusinessEntityID	JobTitle	VacationHours	MaxVacationHours
1	1	Chief Executive Officer	99	99
2	2	Vice President of Engineering	1	99
3	3	Engineering Manager	2	99
4	4	Senior Tool Designer	48	99
5	5	Design Engineer	5	99
6	6	Design Engineer	6	99
7	7	Research and Development Manager	61	99
8	8	Research and Development Engineer	62	99
9	9	Research and Development Engineer	63	99
10	10	Research and Development Manager	16	99
11	11	Senior Tool Designer	7	99
12	12	Tool Designer	9	99
13	13	Tool Designer	8	99
14	14	Senior Design Engineer	3	99
15	15	Design Engineer	4	99
16	16	Marketing Manager	40	99
17	17	Marketing Assistant	42	99
18	18	Marketing Specialist	48	99
19	19	Marketing Assistant	43	99
20	20	Marketing Assistant	41	99
21	21	Marketing Specialist	44	99
22	22	Marketing Specialist	45	99
23	23	Marketing Specialist	46	99
24	24	Marketing Specialist	47	99
25	25	Vice President of Production	64	99
26	26	Production Control Manager	43	99
27	27	Production Supervisor - WC60	80	99
28	28	Production Technician - WC60	21	99
29	29	Production Technician - WC60	19	99
30	30	Production Technician - WC60	14	99
31	31	Production Technician - WC60	18	99

Query executed successfully.


SQLQuery1.sql - SABINPC\SQLEXPRESS02.master (SABINPC\Sabin (61))* - Microsoft SQL Server Management Studio
Quick Launch (Ctrl+Q)
File Edit View Query Project Tools Window Help
New Query
master
Execute
Object Explorer
Connect
SABINPC\SQLEXPRESS02 (SQL Server 1
Databases
Security
Server Objects
Replication
Management
XEvent Profiler
SQLQuery1.sql - SA...ABINPC\Sabin (61))*
100 %
Results
Messages
SABINPC\SQLEXPRESS02 (16.0 ... SABINPC\Sabin (61) master 00:00:00 290 rows
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15°C Mostly cloudy
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```
Select
BusinessEntityID,
```

	BusinessEntityID	JobTitle	VacationHours	MaxVacationHours
61	61	Production Technician - WC50	8	99
62	62	Production Supervisor - WC60	81	99
63	63	Production Technician - WC60	30	99
64	64	Production Technician - WC60	26	99
65	65	Production Technician - WC60	29	99
66	66	Production Technician - WC60	28	99
67	67	Production Technician - WC60	32	99
68	68	Production Technician - WC60	27	99
69	69	Production Technician - WC60	31	99
70	70	Production Technician - WC60	33	99
71	71	Production Supervisor - WC30	70	99
72	72	Production Technician - WC30	41	99
73	73	Production Technician - WC30	42	99
74	74	Production Technician - WC30	43	99
75	75	Production Technician - WC30	44	99
76	76	Production Technician - WC30	45	99
77	77	Production Technician - WC30	46	99
78	78	Production Supervisor - WC40	72	99
79	79	Production Technician - WC40	60	99
80	80	Production Technician - WC40	65	99
81	81	Production Technician - WC40	64	99
82	82	Production Technician - WC40	62	99
83	83	Production Technician - WC40	61	99
84	84	Production Technician - WC40	66	99
85	85	Production Technician - WC40	63	99
86	86	Production Technician - WC40	59	99
87	87	Production Supervisor - WC10	67	99
88	88	Production Technician - WC10	99	99
89	89	Production Technician - WC10	96	99
90	90	Production Technician - WC10	97	99
91	91	Production Technician - WC10	95	99
92	92	Production Technician - WC10	98	99
93	93	Production Supervisor - WC50	78	99
94	94	Production Technician - WC50	6	99
95	95	Production Technician - WC50	1	99
96	96	Production Technician - WC50	5	99
97	97	Production Technician - WC50	0	99
98	98	Production Technician - WC50	4	99
99	99	Production Technician - WC50	2	99

Query executed successfully.

Exercise 2: Add a new derived field to your query from Exercise 1, which returns the percent an individual employees' vacation hours are, of the maximum vacation hours for any employee. For example, the record for the employee with the most vacation hours should have a value of 1.00, or 100%, in this column.

Answer:

Select

BusinessEntityID,

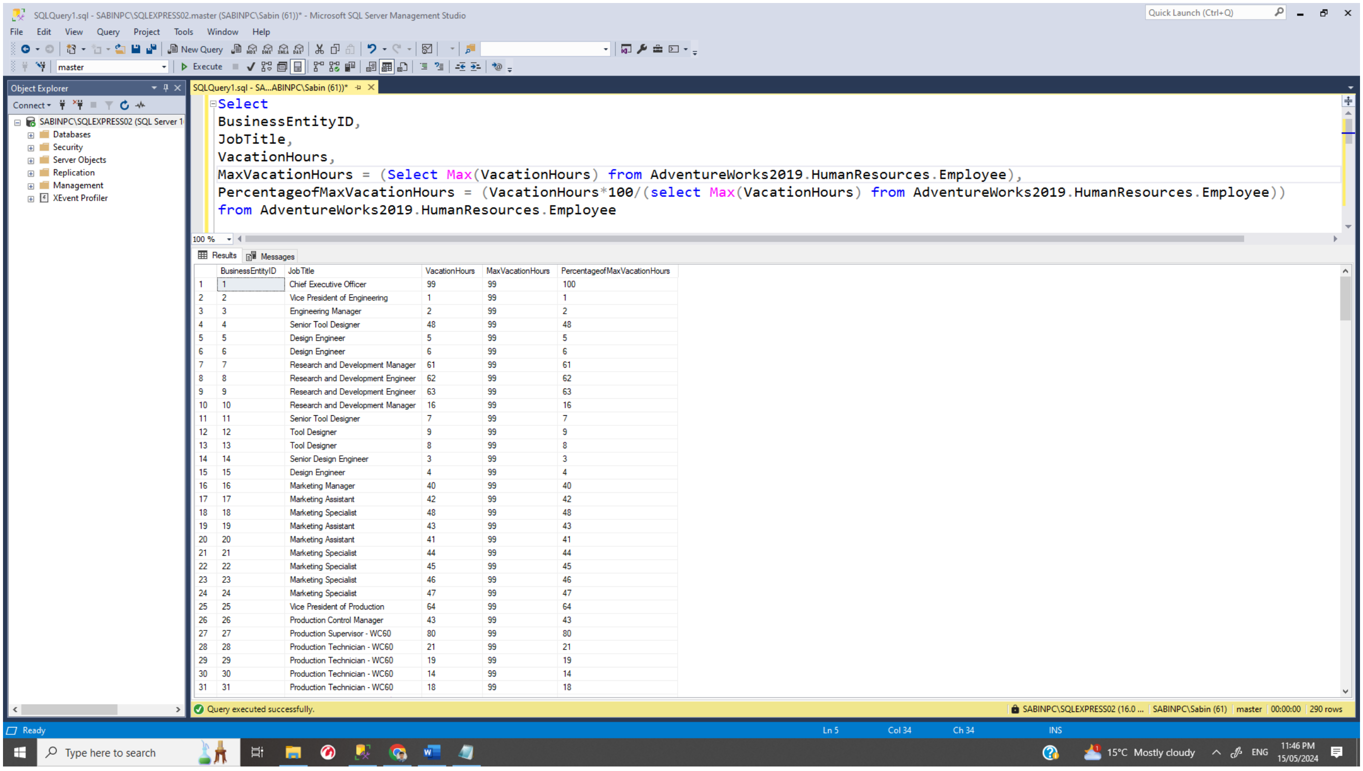
JobTitle,

VacationHours,

MaxVacationHours = (Select Max(VacationHours) from AdventureWorks2019.HumanResources.Employee),

PercentageofMaxVacationHours = (VacationHours*100/(select Max(VacationHours) from AdventureWorks2019.HumanResources.Employee))

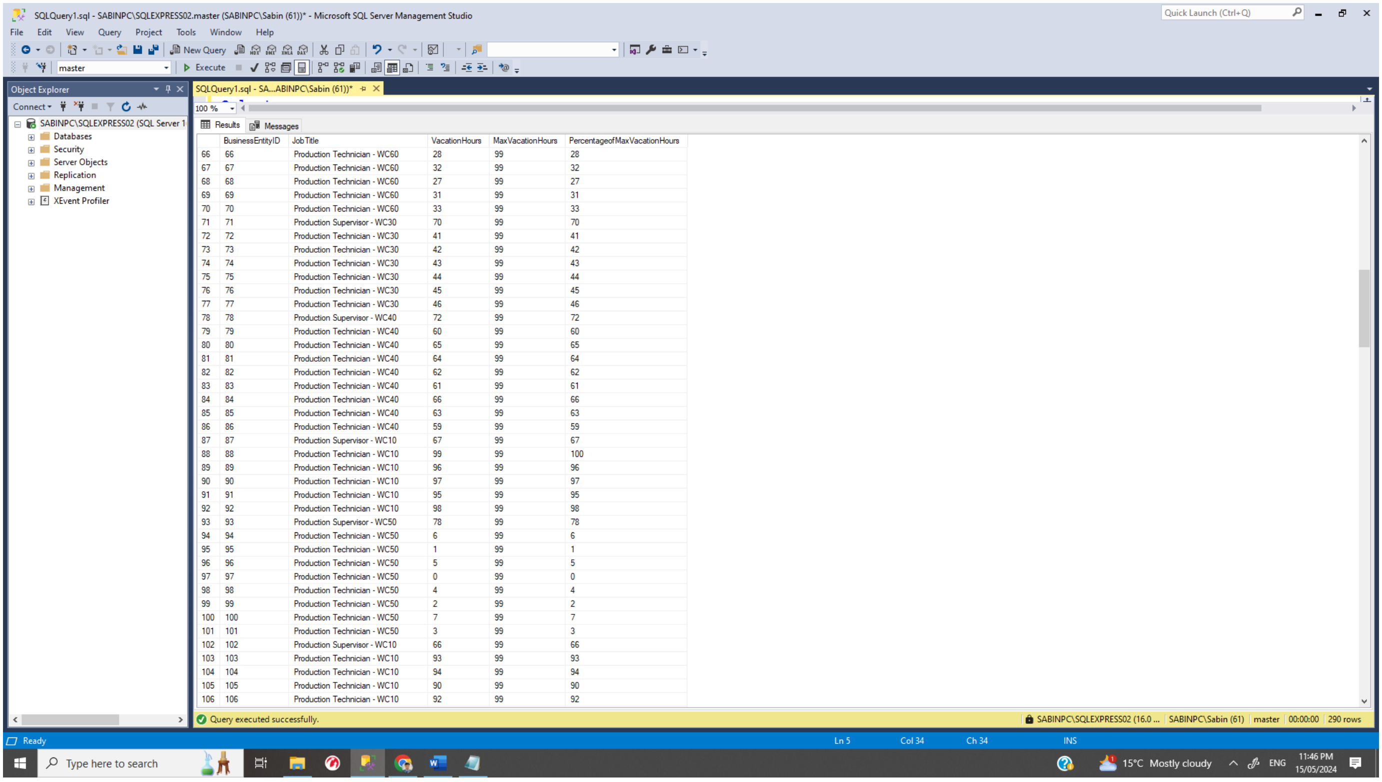
from AdventureWorks2019.HumanResources.Employee



```sql
Select
BusinessEntityID,
JobTitle,
VacationHours,
MaxVacationHours = (Select Max(VacationHours) from AdventureWorks2019.HumanResources.Employee),
PercentageofMaxVacationHours = (VacationHours*100/(select Max(VacationHours) from AdventureWorks2019.HumanResources.Employee))
from AdventureWorks2019.HumanResources.Employee
```

	BusinessEntityID	JobTitle	VacationHours	MaxVacationHours	PercentageofMaxVacationHours
1	1	Chief Executive Officer	99	99	100
2	2	Vice President of Engineering	1	99	1
3	3	Engineering Manager	2	99	2
4	4	Senior Tool Designer	48	99	48
5	5	Design Engineer	5	99	5
6	6	Design Engineer	6	99	6
7	7	Research and Development Manager	61	99	61
8	8	Research and Development Engineer	62	99	62
9	9	Research and Development Engineer	63	99	63
10	10	Research and Development Manager	16	99	16
11	11	Senior Tool Designer	7	99	7
12	12	Tool Designer	9	99	9
13	13	Tool Designer	8	99	8
14	14	Senior Design Engineer	3	99	3
15	15	Design Engineer	4	99	4
16	16	Marketing Manager	40	99	40
17	17	Marketing Assistant	42	99	42
18	18	Marketing Specialist	48	99	48
19	19	Marketing Assistant	43	99	43
20	20	Marketing Assistant	41	99	41
21	21	Marketing Specialist	44	99	44
22	22	Marketing Specialist	45	99	45
23	23	Marketing Specialist	46	99	46
24	24	Marketing Specialist	47	99	47
25	25	Vice President of Production	64	99	64
26	26	Production Control Manager	43	99	43
27	27	Production Supervisor - WC60	80	99	80
28	28	Production Technician - WC60	21	99	21
29	29	Production Technician - WC60	19	99	19
30	30	Production Technician - WC60	14	99	14
31	31	Production Technician - WC60	18	99	18

Query executed successfully.



	BusinessEntityID	JobTitle	VacationHours	MaxVacationHours	PercentageofMaxVacationHours
66	66	Production Technician - WC60	28	99	28
67	67	Production Technician - WC60	32	99	32
68	68	Production Technician - WC60	27	99	27
69	69	Production Technician - WC60	31	99	31
70	70	Production Technician - WC60	33	99	33
71	71	Production Supervisor - WC30	70	99	70
72	72	Production Technician - WC30	41	99	41
73	73	Production Technician - WC30	42	99	42
74	74	Production Technician - WC30	43	99	43
75	75	Production Technician - WC30	44	99	44
76	76	Production Technician - WC30	45	99	45
77	77	Production Technician - WC30	46	99	46
78	78	Production Supervisor - WC40	72	99	72
79	79	Production Technician - WC40	60	99	60
80	80	Production Technician - WC40	65	99	65
81	81	Production Technician - WC40	64	99	64
82	82	Production Technician - WC40	62	99	62
83	83	Production Technician - WC40	61	99	61
84	84	Production Technician - WC40	66	99	66
85	85	Production Technician - WC40	63	99	63
86	86	Production Technician - WC40	59	99	59
87	87	Production Supervisor - WC10	67	99	67
88	88	Production Technician - WC10	99	99	100
89	89	Production Technician - WC10	96	99	96
90	90	Production Technician - WC10	97	99	97
91	91	Production Technician - WC10	95	99	95
92	92	Production Technician - WC10	98	99	98
93	93	Production Supervisor - WC50	78	99	78
94	94	Production Technician - WC50	6	99	6
95	95	Production Technician - WC50	1	99	1
96	96	Production Technician - WC50	5	99	5
97	97	Production Technician - WC50	0	99	0
98	98	Production Technician - WC50	4	99	4
99	99	Production Technician - WC50	2	99	2
100	100	Production Technician - WC50	7	99	7
101	101	Production Technician - WC50	3	99	3
102	102	Production Supervisor - WC10	66	99	66
103	103	Production Technician - WC10	93	99	93
104	104	Production Technician - WC10	94	99	94
105	105	Production Technician - WC10	90	99	90
106	106	Production Technician - WC10	92	99	92

Query executed successfully.

Exercise 3: Refine your output with a criterion in the WHERE clause that filters out any employees whose vacation hours are less then 80% of the maximum amount of vacation hours for any one employee. In other words, return only employees who have at least 80% as much vacation time as the employee with the most vacation time.

Answer:

Select

BusinessEntityID,

JobTitle,

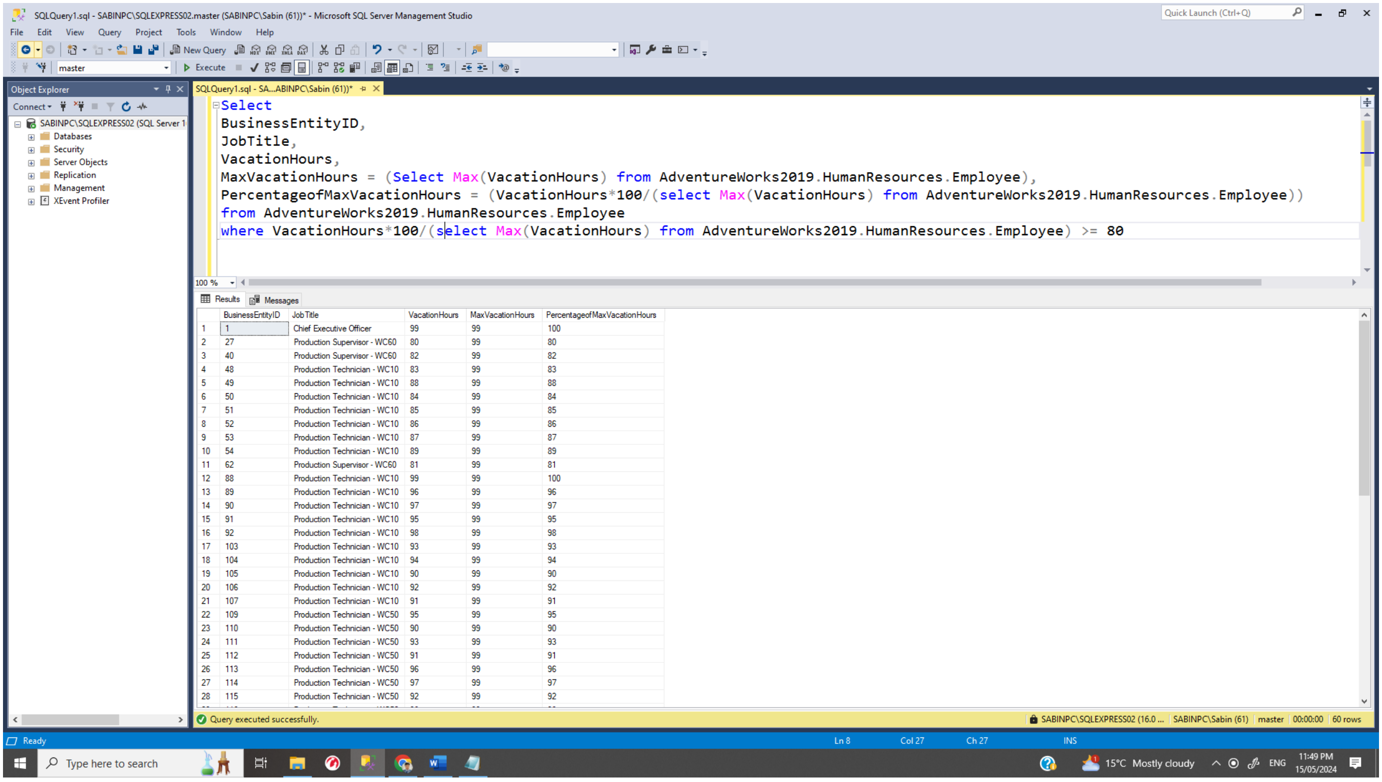
VacationHours,

MaxVacationHours = (Select Max(VacationHours) from AdventureWorks2019.HumanResources.Employee),

PercentageofMaxVacationHours = (VacationHours*100/(select Max(VacationHours) from AdventureWorks2019.HumanResources.Employee))

from AdventureWorks2019.HumanResources.Employee

where VacationHours*100/(select Max(VacationHours) from AdventureWorks2019.HumanResources.Employee) >= 80

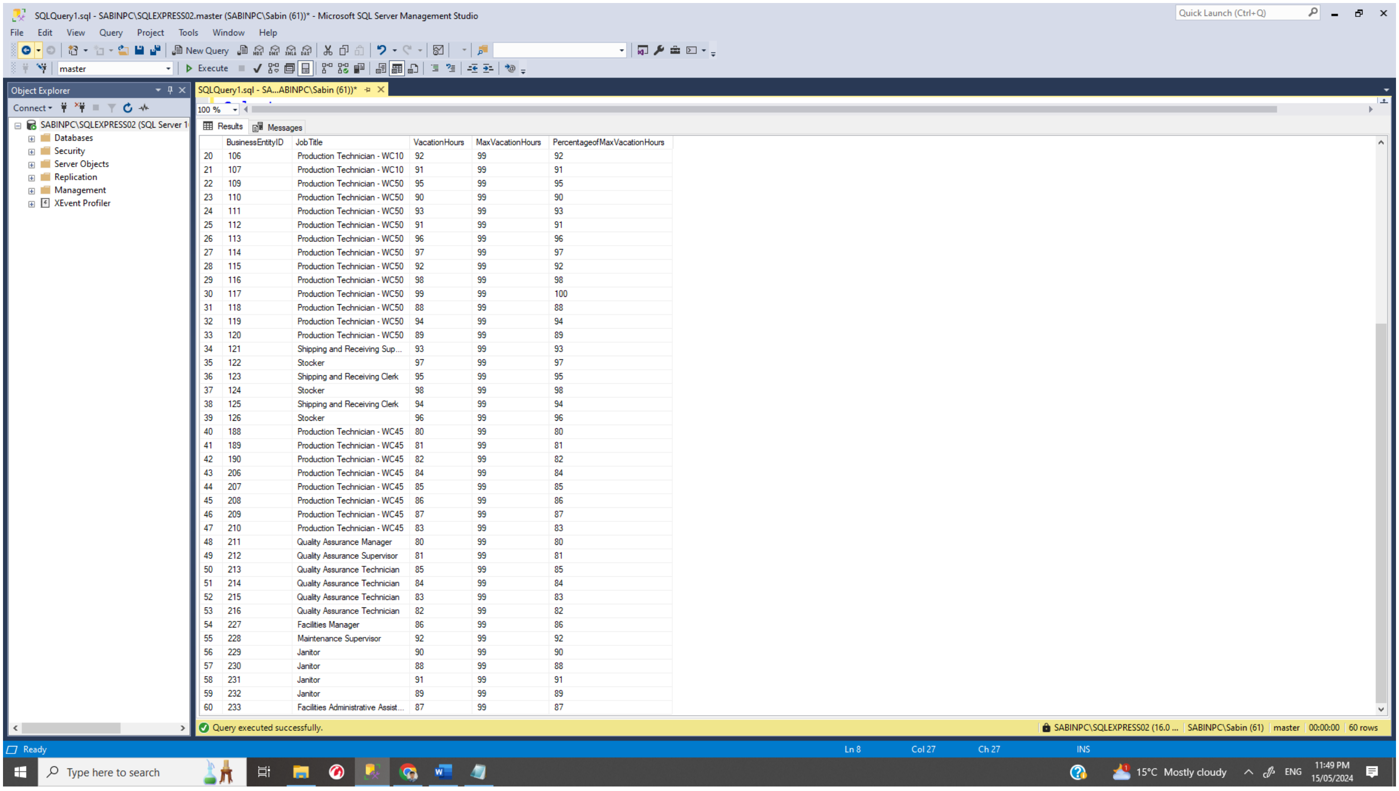


```
Select
BusinessEntityID,
JobTitle,
VacationHours,
MaxVacationHours = (Select Max(VacationHours) from AdventureWorks2019.HumanResources.Employee),
PercentageofMaxVacationHours = (VacationHours*100/(select Max(VacationHours) from AdventureWorks2019.HumanResources.Employee))
from AdventureWorks2019.HumanResources.Employee
where VacationHours*100/(select Max(VacationHours) from AdventureWorks2019.HumanResources.Employee) >= 80
```

	BusinessEntityID	JobTitle	VacationHours	MaxVacationHours	PercentageofMaxVacationHours
1	1	Chief Executive Officer	99	99	100
2	27	Production Supervisor - WC60	80	99	80
3	40	Production Supervisor - WC60	82	99	82
4	48	Production Technician - WC10	83	99	83
5	49	Production Technician - WC10	88	99	88
6	50	Production Technician - WC10	84	99	84
7	51	Production Technician - WC10	85	99	85
8	52	Production Technician - WC10	86	99	86
9	53	Production Technician - WC10	87	99	87
10	54	Production Technician - WC10	89	99	89
11	62	Production Supervisor - WC60	81	99	81
12	88	Production Technician - WC10	99	99	100
13	89	Production Technician - WC10	96	99	96
14	90	Production Technician - WC10	97	99	97
15	91	Production Technician - WC10	95	99	95
16	92	Production Technician - WC10	98	99	98
17	103	Production Technician - WC10	93	99	93
18	104	Production Technician - WC10	94	99	94
19	105	Production Technician - WC10	90	99	90
20	106	Production Technician - WC10	92	99	92
21	107	Production Technician - WC10	91	99	91
22	109	Production Technician - WC50	95	99	95
23	110	Production Technician - WC50	90	99	90
24	111	Production Technician - WC50	93	99	93
25	112	Production Technician - WC50	91	99	91
26	113	Production Technician - WC50	96	99	96
27	114	Production Technician - WC50	97	99	97
28	115	Production Technician - WC50	92	99	92

Query executed successfully.

SABINPC\SQLEXPRESS02 (16.0 ... SABINPC\Sabin (61) master 00:00:00 60 rows



	BusinessEntityID	JobTitle	VacationHours	MaxVacationHours	PercentageofMaxVacationHours
20	106	Production Technician - WC10	92	99	92
21	107	Production Technician - WC10	91	99	91
22	109	Production Technician - WC50	95	99	95
23	110	Production Technician - WC50	90	99	90
24	111	Production Technician - WC50	93	99	93
25	112	Production Technician - WC50	91	99	91
26	113	Production Technician - WC50	96	99	96
27	114	Production Technician - WC50	97	99	97
28	115	Production Technician - WC50	92	99	92
29	116	Production Technician - WC50	98	99	98
30	117	Production Technician - WC50	99	99	100
31	118	Production Technician - WC50	88	99	88
32	119	Production Technician - WC50	94	99	94
33	120	Production Technician - WC50	89	99	89
34	121	Shipping and Receiving Sup...	93	99	93
35	122	Stocker	97	99	97
36	123	Shipping and Receiving Clerk	95	99	95
37	124	Stocker	98	99	98
38	125	Shipping and Receiving Clerk	94	99	94
39	126	Stocker	96	99	96
40	188	Production Technician - WC45	80	99	80
41	189	Production Technician - WC45	81	99	81
42	190	Production Technician - WC45	82	99	82
43	206	Production Technician - WC45	84	99	84
44	207	Production Technician - WC45	85	99	85
45	208	Production Technician - WC45	86	99	86
46	209	Production Technician - WC45	87	99	87
47	210	Production Technician - WC45	83	99	83
48	211	Quality Assurance Manager	80	99	80
49	212	Quality Assurance Supervisor	81	99	81
50	213	Quality Assurance Technician	85	99	85
51	214	Quality Assurance Technician	84	99	84
52	215	Quality Assurance Technician	83	99	83
53	216	Quality Assurance Technician	82	99	82
54	227	Facilities Manager	86	99	86
55	228	Maintenance Supervisor	92	99	92
56	229	Janitor	90	99	90
57	230	Janitor	88	99	88
58	231	Janitor	91	99	91
59	232	Janitor	89	99	89
60	233	Facilities Administrative Assist...	87	99	87

Query executed successfully.

Correlated Subqueries - Exercises

Exercise 1: Write a query that outputs all records from the Purchasing.PurchaseOrderHeader table. Include the following columns from the table:

PurchaseOrderID

VendorID

OrderDate

TotalDue

Add a derived column called NonRejectedItems which returns, for each purchase order ID in the query output, the number of line items from the Purchasing.PurchaseOrderDetail table which did not have any rejections (i.e., RejectedQty = 0). Use a correlated subquery to do this.

Answer:

select

PurchaseOrderID,

VendorID,

OrderDate,

TotalDue,

NonRejectedItems = (

select

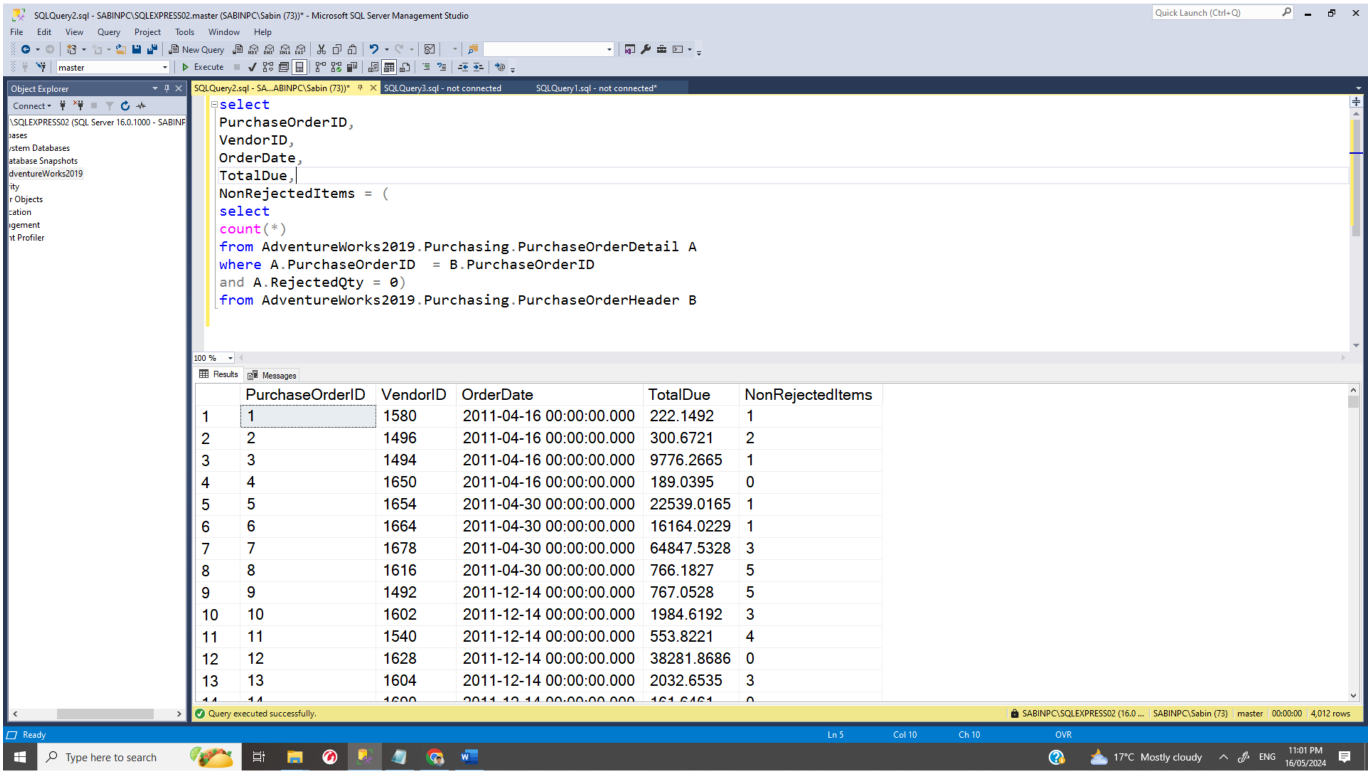
count(*)

from AdventureWorks2019.Purchasing.PurchaseOrderDetail A

where A.PurchaseOrderID = B.PurchaseOrderID

and A.RejectedQty = 0)

from AdventureWorks2019.Purchasing.PurchaseOrderHeader B


SQLQuery2.sql - SABINPC\SQLEXPRESS02.master (SABINPC\Sabin (73))* - Microsoft SQL Server Management Studio
File Edit View Query Project Tools Window Help
New Query
master
Execute
Object Explorer
SQLQuery2.sql - SA...ABINPC\Sabin (73))*
SQLQuery3.sql - not connected
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Results
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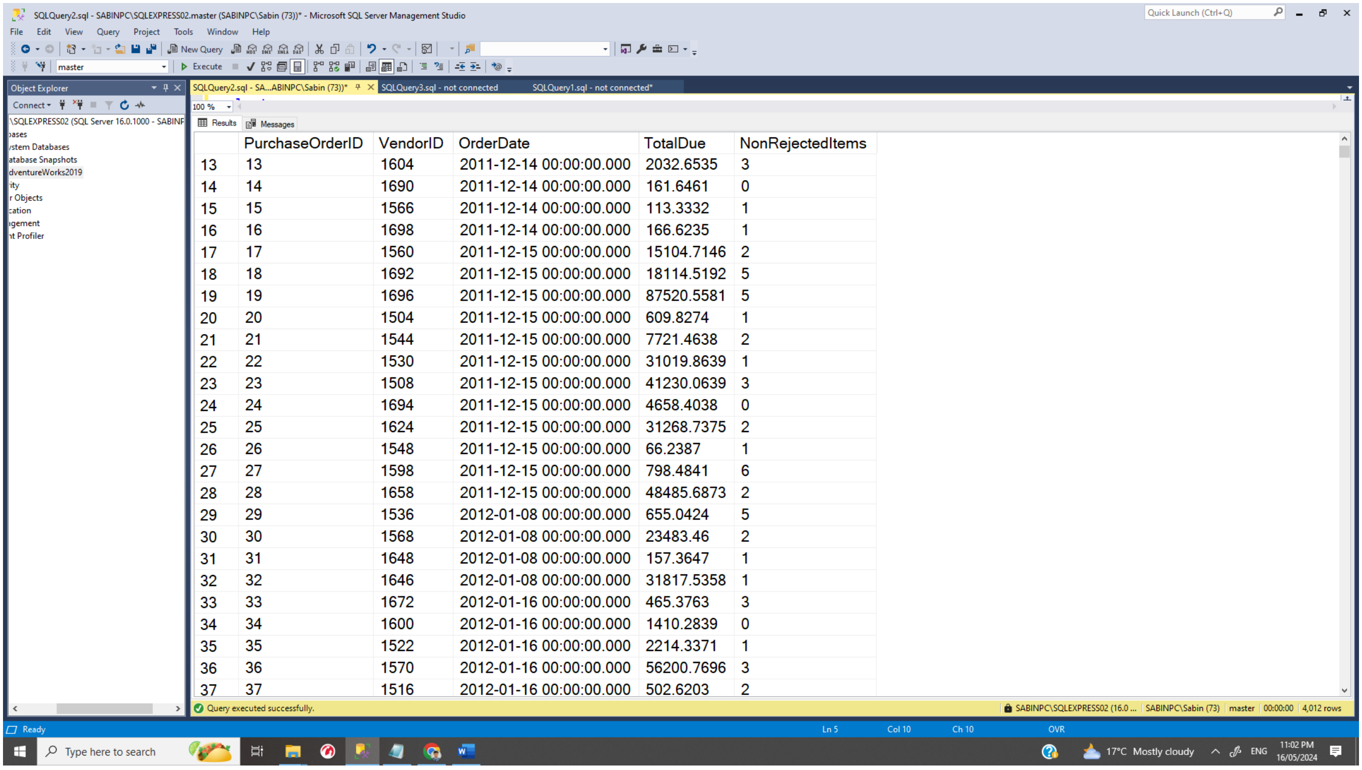
Ready
Ln 5
Col 10
Ch 10
OVR

```
select
PurchaseOrderID,
VendorID,
OrderDate,
TotalDue,
NonRejectedItems = (
select
count(*)
from AdventureWorks2019.Purchasing.PurchaseOrderDetail A
where A.PurchaseOrderID  = B.PurchaseOrderID
and A.RejectedQty = 0)
from AdventureWorks2019.Purchasing.PurchaseOrderHeader B
```

	PurchaseOrderID	VendorID	OrderDate	TotalDue	NonRejectedItems
1	1	1580	2011-04-16 00:00:00.000	222.1492	1
2	2	1496	2011-04-16 00:00:00.000	300.6721	2
3	3	1494	2011-04-16 00:00:00.000	9776.2665	1
4	4	1650	2011-04-16 00:00:00.000	189.0395	0
5	5	1654	2011-04-30 00:00:00.000	22539.0165	1
6	6	1664	2011-04-30 00:00:00.000	16164.0229	1
7	7	1678	2011-04-30 00:00:00.000	64847.5328	3
8	8	1616	2011-04-30 00:00:00.000	766.1827	5
9	9	1492	2011-12-14 00:00:00.000	767.0528	5
10	10	1602	2011-12-14 00:00:00.000	1984.6192	3
11	11	1540	2011-12-14 00:00:00.000	553.8221	4
12	12	1628	2011-12-14 00:00:00.000	38281.8686	0
13	13	1604	2011-12-14 00:00:00.000	2032.6535	3
14	14	1600	2011-12-14 00:00:00.000	161.6461	0

Query executed successfully.

SABINPC\SQLEXPRESS02 (16.0 ... SABINPC\Sabin (73) master 00:00:00 4,012 rows



SQLQuery2.sql - SABINPC\SQLEXPRESS02.master (SABINPC\Sabin (73))* - Microsoft SQL Server Management Studio

	PurchaseOrderID	VendorID	OrderDate	TotalDue	NonRejectedItems
13	13	1604	2011-12-14 00:00:00.000	2032.6535	3
14	14	1690	2011-12-14 00:00:00.000	161.6461	0
15	15	1566	2011-12-14 00:00:00.000	113.3332	1
16	16	1698	2011-12-14 00:00:00.000	166.6235	1
17	17	1560	2011-12-15 00:00:00.000	15104.7146	2
18	18	1692	2011-12-15 00:00:00.000	18114.5192	5
19	19	1696	2011-12-15 00:00:00.000	87520.5581	5
20	20	1504	2011-12-15 00:00:00.000	609.8274	1
21	21	1544	2011-12-15 00:00:00.000	7721.4638	2
22	22	1530	2011-12-15 00:00:00.000	31019.8639	1
23	23	1508	2011-12-15 00:00:00.000	41230.0639	3
24	24	1694	2011-12-15 00:00:00.000	4658.4038	0
25	25	1624	2011-12-15 00:00:00.000	31268.7375	2
26	26	1548	2011-12-15 00:00:00.000	66.2387	1
27	27	1598	2011-12-15 00:00:00.000	798.4841	6
28	28	1658	2011-12-15 00:00:00.000	48485.6873	2
29	29	1536	2012-01-08 00:00:00.000	655.0424	5
30	30	1568	2012-01-08 00:00:00.000	23483.46	2
31	31	1648	2012-01-08 00:00:00.000	157.3647	1
32	32	1646	2012-01-08 00:00:00.000	31817.5358	1
33	33	1672	2012-01-16 00:00:00.000	465.3763	3
34	34	1600	2012-01-16 00:00:00.000	1410.2839	0
35	35	1522	2012-01-16 00:00:00.000	2214.3371	1
36	36	1570	2012-01-16 00:00:00.000	56200.7696	3
37	37	1516	2012-01-16 00:00:00.000	502.6203	2

Query executed successfully. SABINPC\SQLEXPRESS02 (16.0 ... SABINPC\Sabin (73) master 00:00:00 4,012 rows

Exercise 2: Modify your query to include a second derived field called MostExpensiveItem. This field should return, for each purchase order ID, the UnitPrice of the most expensive item for that order in the Purchasing.PurchaseOrderDetail table. Use a correlated subquery to do this as well.

Answer:

select

PurchaseOrderID,

VendorID,

OrderDate,

TotalDue,

NonRejectedItems = (

select

count(*)

from AdventureWorks2019.Purchasing.PurchaseOrderDetail B

where A.PurchaseOrderID = B.PurchaseOrderID

and B.RejectedQty = 0

),

MostExpensiveItem = (

select

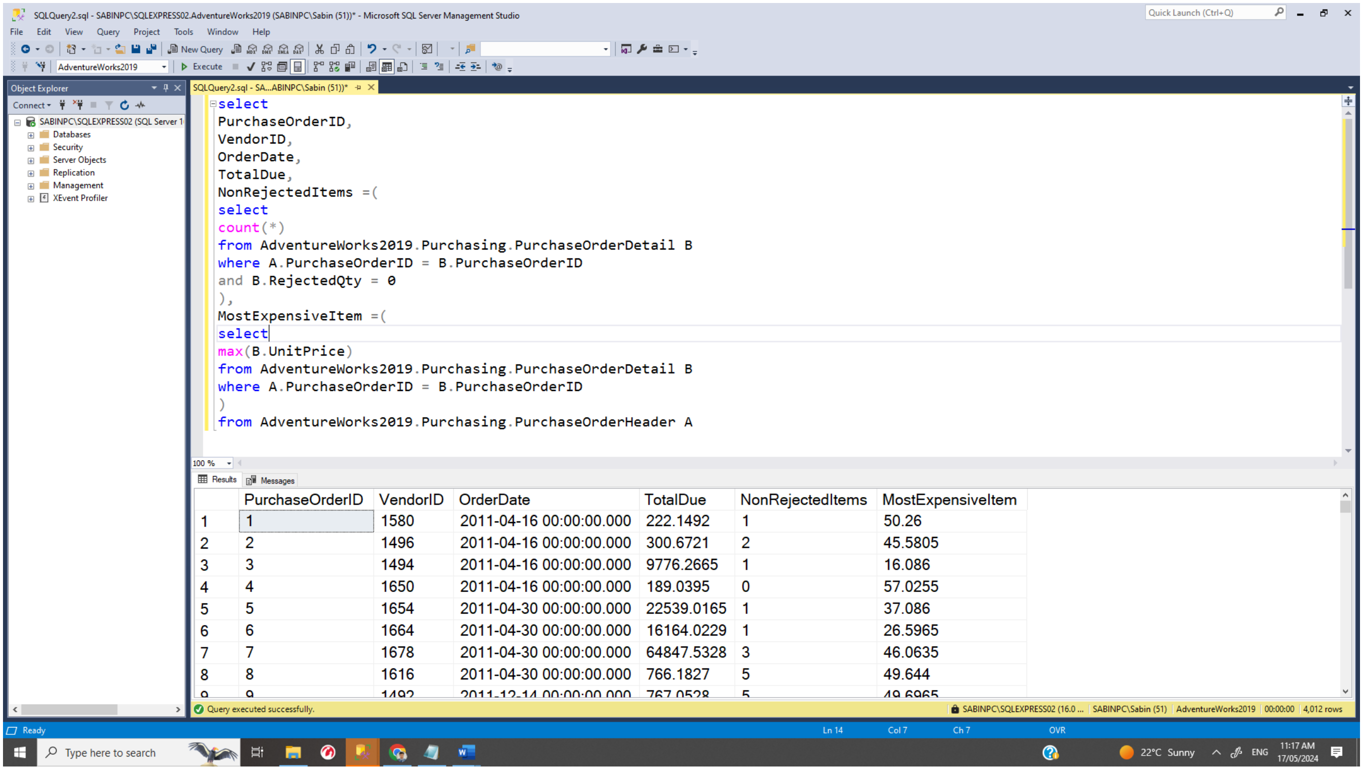
max(B.UnitPrice)

from AdventureWorks2019.Purchasing.PurchaseOrderDetail B

where A.PurchaseOrderID = B.PurchaseOrderID

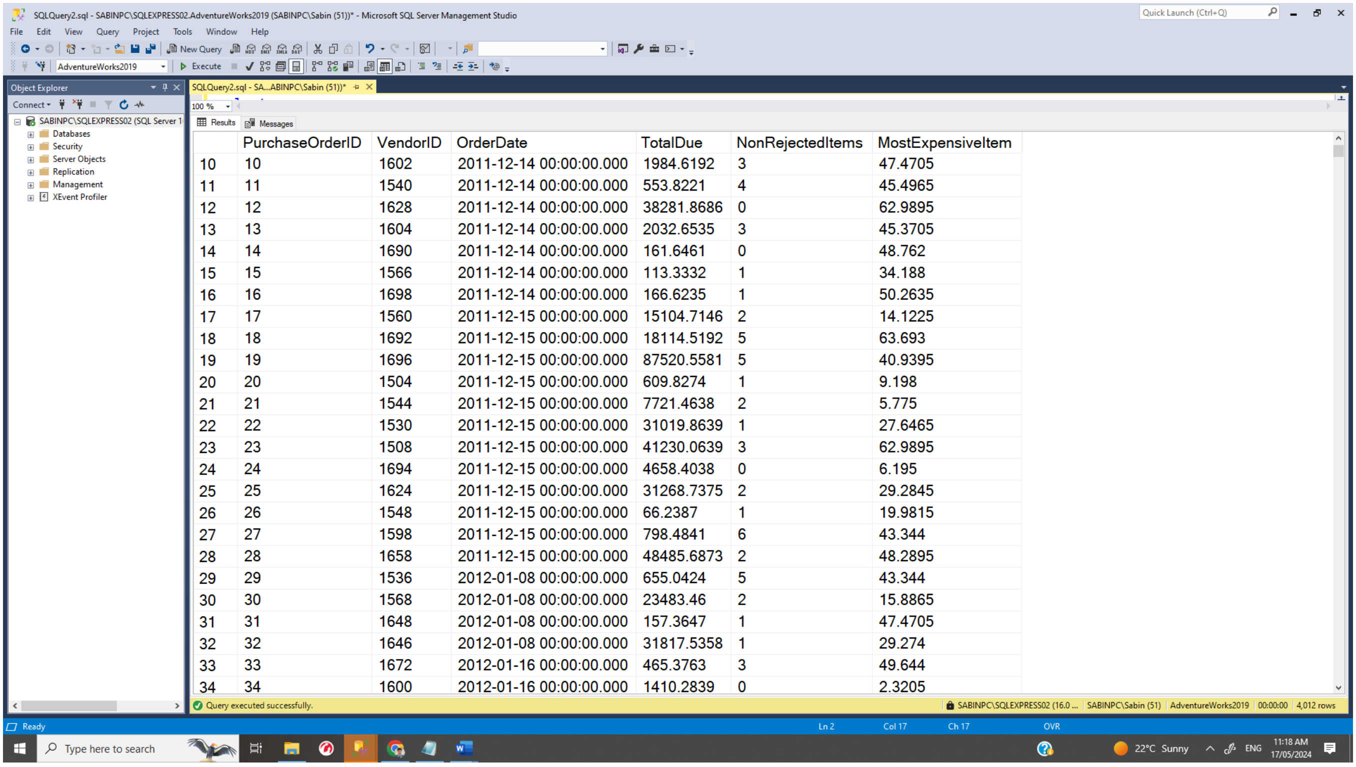
)

from AdventureWorks2019.Purchasing.PurchaseOrderHeader A


SQLQuery2.sql - SABINPC\SQLEXPRESS02.AdventureWorks2019 (SABINPC\Sabin (51))* - Microsoft SQL Server Management Studio
Object Explorer
SABINPC\SQLEXPRESS02 (SQL Server 1
Databases
Security
Server Objects
Replication
Management
XEvent Profiler
Results
Messages
Query executed successfully.
Ready

```
select
PurchaseOrderID,
VendorID,
OrderDate,
TotalDue,
NonRejectedItems =(
select
count(*)
from AdventureWorks2019.Purchasing.PurchaseOrderDetail B
where A.PurchaseOrderID = B.PurchaseOrderID
and B.RejectedQty = 0
),
MostExpensiveItem =(
select
max(B.UnitPrice)
from AdventureWorks2019.Purchasing.PurchaseOrderDetail B
where A.PurchaseOrderID = B.PurchaseOrderID
)
from AdventureWorks2019.Purchasing.PurchaseOrderHeader A
```

	PurchaseOrderID	VendorID	OrderDate	TotalDue	NonRejectedItems	MostExpensiveItem
1	1	1580	2011-04-16 00:00:00.000	222.1492	1	50.26
2	2	1496	2011-04-16 00:00:00.000	300.6721	2	45.5805
3	3	1494	2011-04-16 00:00:00.000	9776.2665	1	16.086
4	4	1650	2011-04-16 00:00:00.000	189.0395	0	57.0255
5	5	1654	2011-04-30 00:00:00.000	22539.0165	1	37.086
6	6	1664	2011-04-30 00:00:00.000	16164.0229	1	26.5965
7	7	1678	2011-04-30 00:00:00.000	64847.5328	3	46.0635
8	8	1616	2011-04-30 00:00:00.000	766.1827	5	49.644
9	9	1492	2011-12-14 00:00:00.000	767.0528	5	49.6965


SQLQuery2.sql - SABINPC\SQLEXPRESS02.AdventureWorks2019 (SABINPC\Sabin (51))* - Microsoft SQL Server Management Studio
Object Explorer
SABINPC\SQLEXPRESS02 (SQL Server 1
Databases
Security
Server Objects
Replication
Management
XEvent Profiler
Results
Messages
Query executed successfully.
Ready

	PurchaseOrderID	VendorID	OrderDate	TotalDue	NonRejectedItems	MostExpensiveItem
10	10	1602	2011-12-14 00:00:00.000	1984.6192	3	47.4705
11	11	1540	2011-12-14 00:00:00.000	553.8221	4	45.4965
12	12	1628	2011-12-14 00:00:00.000	38281.8686	0	62.9895
13	13	1604	2011-12-14 00:00:00.000	2032.6535	3	45.3705
14	14	1690	2011-12-14 00:00:00.000	161.6461	0	48.762
15	15	1566	2011-12-14 00:00:00.000	113.3332	1	34.188
16	16	1698	2011-12-14 00:00:00.000	166.6235	1	50.2635
17	17	1560	2011-12-15 00:00:00.000	15104.7146	2	14.1225
18	18	1692	2011-12-15 00:00:00.000	18114.5192	5	63.693
19	19	1696	2011-12-15 00:00:00.000	87520.5581	5	40.9395
20	20	1504	2011-12-15 00:00:00.000	609.8274	1	9.198
21	21	1544	2011-12-15 00:00:00.000	7721.4638	2	5.775
22	22	1530	2011-12-15 00:00:00.000	31019.8639	1	27.6465
23	23	1508	2011-12-15 00:00:00.000	41230.0639	3	62.9895
24	24	1694	2011-12-15 00:00:00.000	4658.4038	0	6.195
25	25	1624	2011-12-15 00:00:00.000	31268.7375	2	29.2845
26	26	1548	2011-12-15 00:00:00.000	66.2387	1	19.9815
27	27	1598	2011-12-15 00:00:00.000	798.4841	6	43.344
28	28	1658	2011-12-15 00:00:00.000	48485.6873	2	48.2895
29	29	1536	2012-01-08 00:00:00.000	655.0424	5	43.344
30	30	1568	2012-01-08 00:00:00.000	23483.46	2	15.8865
31	31	1648	2012-01-08 00:00:00.000	157.3647	1	47.4705
32	32	1646	2012-01-08 00:00:00.000	31817.5358	1	29.274
33	33	1672	2012-01-16 00:00:00.000	465.3763	3	49.644
34	34	1600	2012-01-16 00:00:00.000	1410.2839	0	2.3205

EXISTS - Exercises

Exercise 1: Select all records from the Purchasing.PurchaseOrderHeader table such that there is at least one item in the order with an order quantity greater than 500. The individual items tied to an order can be found in the Purchasing.PurchaseOrderDetail table.

Select the following columns:

PurchaseOrderID

OrderDate

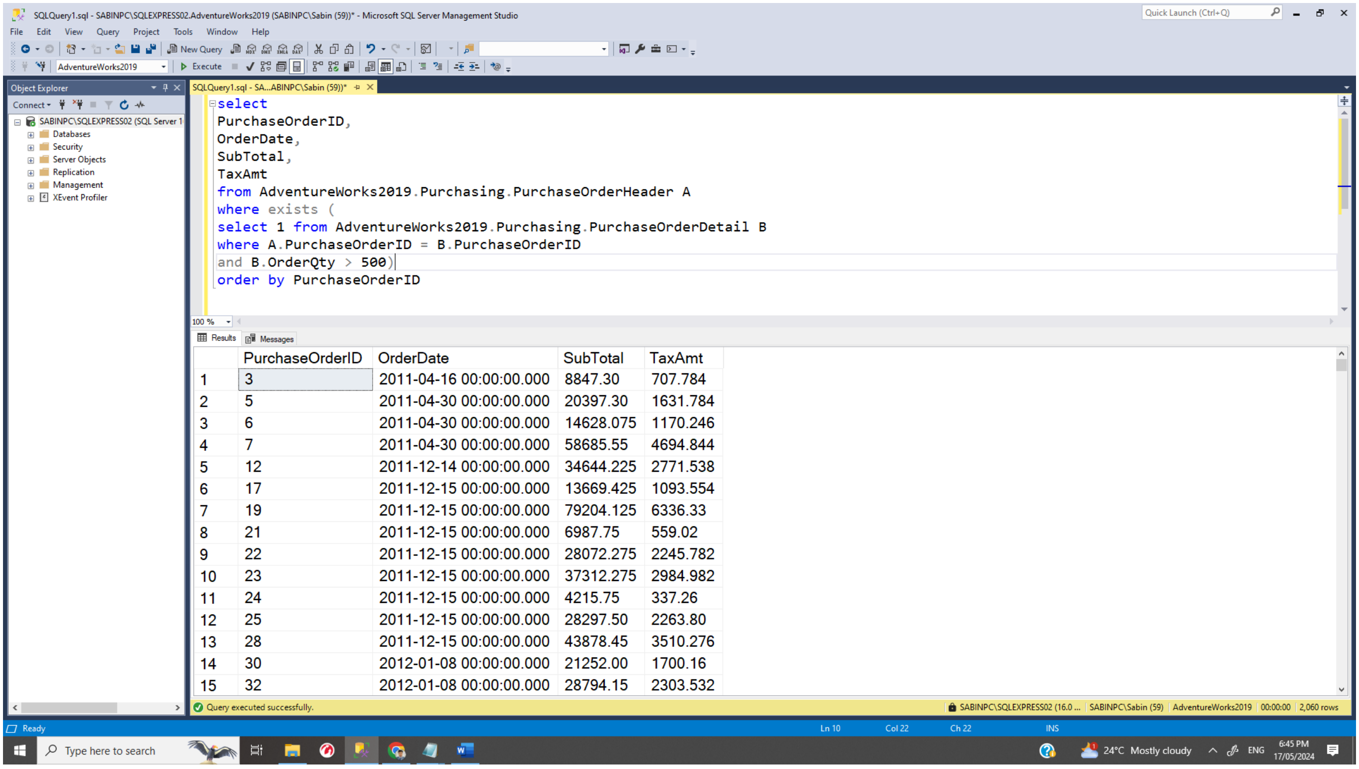
SubTotal

TaxAmt

Sort by purchase order ID.

Answer:

```
select
PurchaseOrderID,
OrderDate,
SubTotal,
TaxAmt
from AdventureWorks2019.Purchasing.PurchaseOrderHeader A
where exists (
select 1 from AdventureWorks2019.Purchasing.PurchaseOrderDetail B
where A.PurchaseOrderID = B.PurchaseOrderID
and B.OrderQty > 500)
order by PurchaseOrderID
```



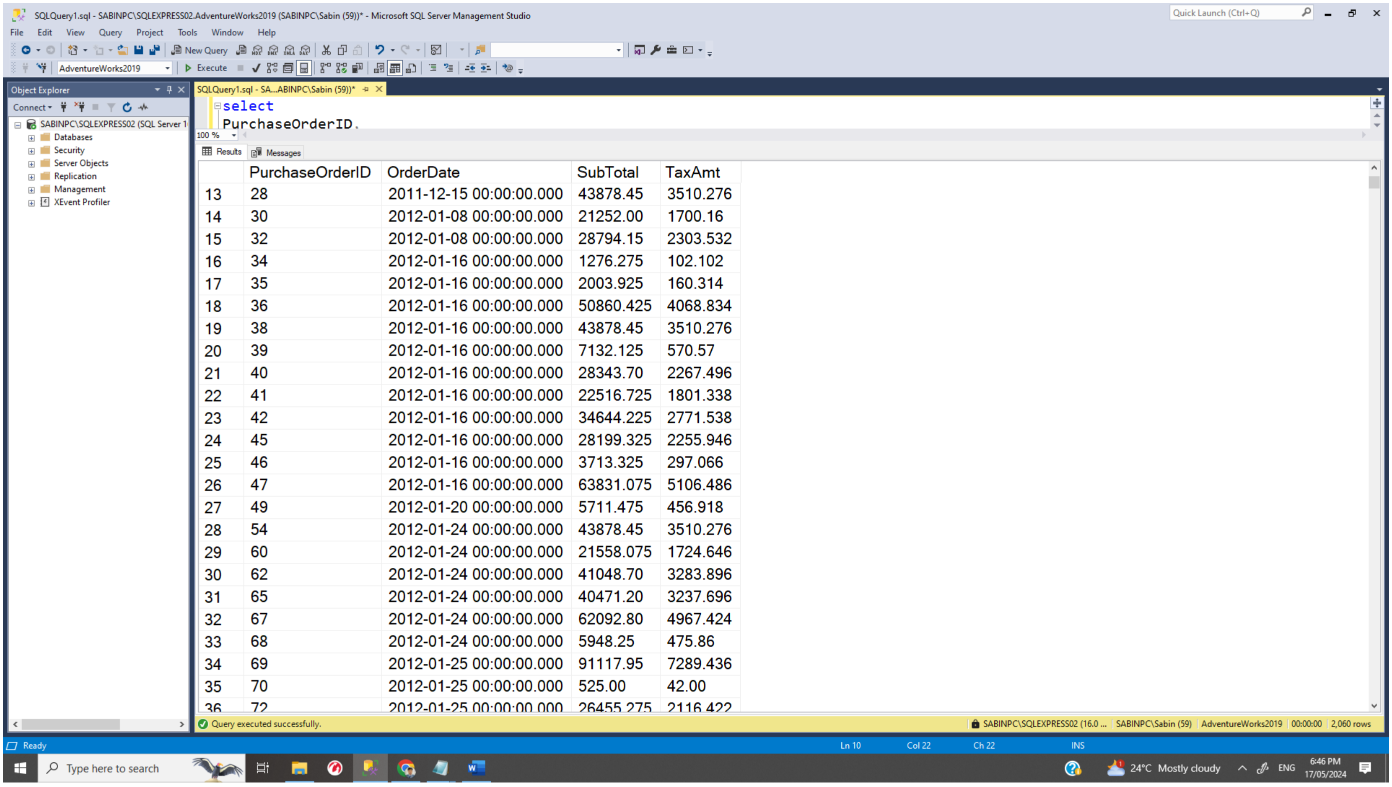
SQLQuery1.sql - SABINPC\SQLEXPRESS02.AdventureWorks2019 (SABINPC\Sabin (59))* - Microsoft SQL Server Management Studio

```
select
PurchaseOrderID,
OrderDate,
SubTotal,
TaxAmt
from AdventureWorks2019.Purchasing.PurchaseOrderHeader A
where exists (
select 1 from AdventureWorks2019.Purchasing.PurchaseOrderDetail B
where A.PurchaseOrderID = B.PurchaseOrderID
and B.OrderQty > 500)
order by PurchaseOrderID
```

	PurchaseOrderID	OrderDate	SubTotal	TaxAmt
1	3	2011-04-16 00:00:00.000	8847.30	707.784
2	5	2011-04-30 00:00:00.000	20397.30	1631.784
3	6	2011-04-30 00:00:00.000	14628.075	1170.246
4	7	2011-04-30 00:00:00.000	58685.55	4694.844
5	12	2011-12-14 00:00:00.000	34644.225	2771.538
6	17	2011-12-15 00:00:00.000	13669.425	1093.554
7	19	2011-12-15 00:00:00.000	79204.125	6336.33
8	21	2011-12-15 00:00:00.000	6987.75	559.02
9	22	2011-12-15 00:00:00.000	28072.275	2245.782
10	23	2011-12-15 00:00:00.000	37312.275	2984.982
11	24	2011-12-15 00:00:00.000	4215.75	337.26
12	25	2011-12-15 00:00:00.000	28297.50	2263.80
13	28	2011-12-15 00:00:00.000	43878.45	3510.276
14	30	2012-01-08 00:00:00.000	21252.00	1700.16
15	32	2012-01-08 00:00:00.000	28794.15	2303.532

Query executed successfully.

SABINPC\SQLEXPRESS02 (16.0 ... SABINPC\Sabin (59) AdventureWorks2019 00:00:00 2,060 rows



SQLQuery1.sql - SABINPC\SQLEXPRESS02.AdventureWorks2019 (SABINPC\Sabin (59))* - Microsoft SQL Server Management Studio

```
select
PurchaseOrderID,
```

	PurchaseOrderID	OrderDate	SubTotal	TaxAmt
13	28	2011-12-15 00:00:00.000	43878.45	3510.276
14	30	2012-01-08 00:00:00.000	21252.00	1700.16
15	32	2012-01-08 00:00:00.000	28794.15	2303.532
16	34	2012-01-16 00:00:00.000	1276.275	102.102
17	35	2012-01-16 00:00:00.000	2003.925	160.314
18	36	2012-01-16 00:00:00.000	50860.425	4068.834
19	38	2012-01-16 00:00:00.000	43878.45	3510.276
20	39	2012-01-16 00:00:00.000	7132.125	570.57
21	40	2012-01-16 00:00:00.000	28343.70	2267.496
22	41	2012-01-16 00:00:00.000	22516.725	1801.338
23	42	2012-01-16 00:00:00.000	34644.225	2771.538
24	45	2012-01-16 00:00:00.000	28199.325	2255.946
25	46	2012-01-16 00:00:00.000	3713.325	297.066
26	47	2012-01-16 00:00:00.000	63831.075	5106.486
27	49	2012-01-20 00:00:00.000	5711.475	456.918
28	54	2012-01-24 00:00:00.000	43878.45	3510.276
29	60	2012-01-24 00:00:00.000	21558.075	1724.646
30	62	2012-01-24 00:00:00.000	41048.70	3283.896
31	65	2012-01-24 00:00:00.000	40471.20	3237.696
32	67	2012-01-24 00:00:00.000	62092.80	4967.424
33	68	2012-01-24 00:00:00.000	5948.25	475.86
34	69	2012-01-25 00:00:00.000	91117.95	7289.436
35	70	2012-01-25 00:00:00.000	525.00	42.00
36	72	2012-01-25 00:00:00.000	26455.275	2116.422

Query executed successfully.

SABINPC\SQLEXPRESS02 (16.0 ... SABINPC\Sabin (59) AdventureWorks2019 00:00:00 2,060 rows

Exercise 2: Modify your query from Exercise 1 as follows:

Select all records from the Purchasing.PurchaseOrderHeader table such that there is at least one item in the order with an order quantity greater than 500, AND a unit price greater than $50.00. Select ALL columns from the Purchasing.PurchaseOrderHeader table for display in your output.

Even if you have aliased this table to enable the use of a JOIN or EXISTS, you can still use the SELECT * shortcut to do this. Assuming you have aliased your table "A", simply use "SELECT A.*" to select all columns from that table.

Answer:

select

A.*

from AdventureWorks2019.Purchasing.PurchaseOrderHeader A

where exists (

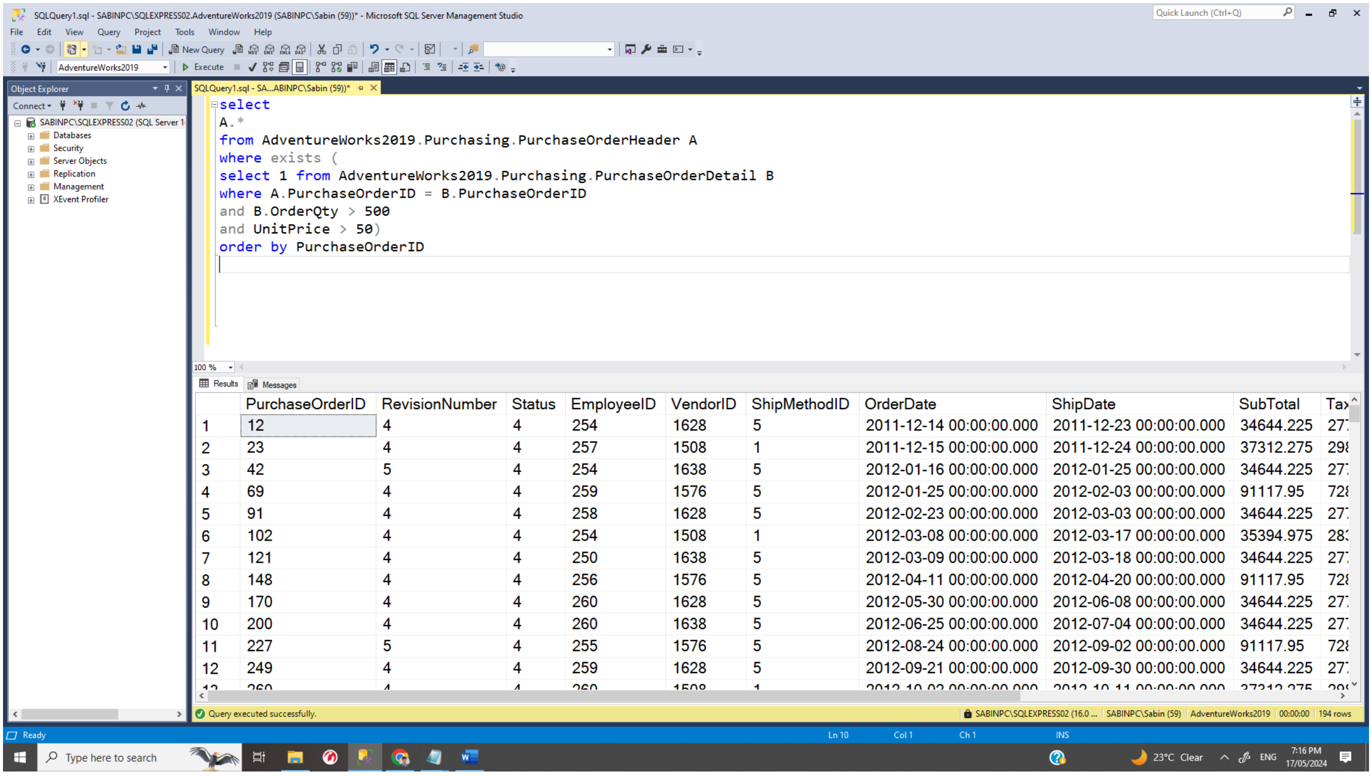
select 1 from AdventureWorks2019.Purchasing.PurchaseOrderDetail B

where A.PurchaseOrderID = B.PurchaseOrderID

and B.OrderQty > 500

and UnitPrice > 50)

order by PurchaseOrderID



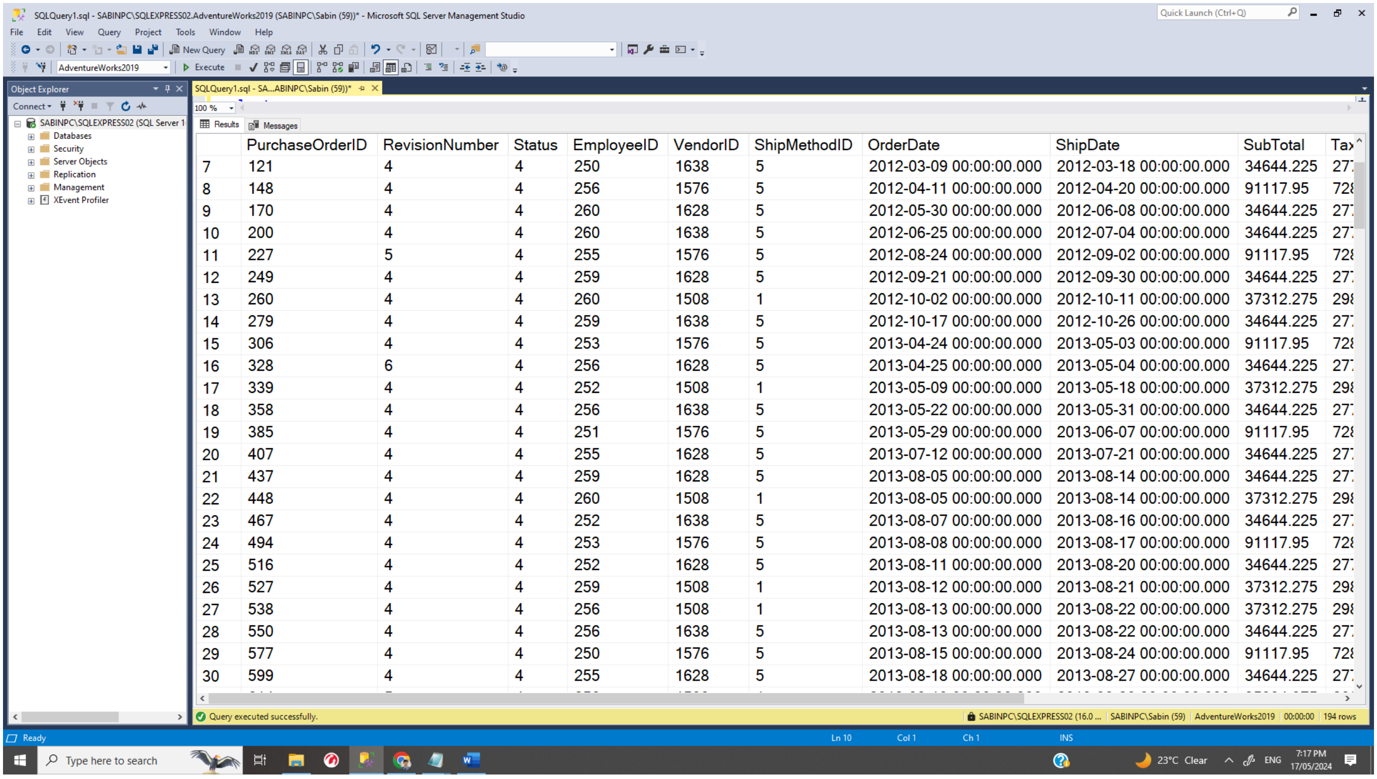
SQLQuery1.sql - SABINPC\SQLEXPRESS02.AdventureWorks2019 (SABINPC\Sabin (59))* - Microsoft SQL Server Management Studio
Quick Launch (Ctrl+Q)
File Edit View Query Project Tools Window Help
New Query
AdventureWorks2019
Execute
Object Explorer
Connect
SABINPC\SQLEXPRESS02 (SQL Server 1
Databases
Security
Server Objects
Replication
Management
XEvent Profiler
SQLQuery1.sql - SA...ABINPC\Sabin (59))*
100 %
Results
Messages
Ready
Ln 10
Col 1
Ch 1
INS
Type here to search
23°C Clear
ENG
7:16 PM
17/05/2024

```
select
A.*
from AdventureWorks2019.Purchasing.PurchaseOrderHeader A
where exists (
select 1 from AdventureWorks2019.Purchasing.PurchaseOrderDetail B
where A.PurchaseOrderID = B.PurchaseOrderID
and B.OrderQty > 500
and UnitPrice > 50)
order by PurchaseOrderID
```

	PurchaseOrderID	RevisionNumber	Status	EmployeeID	VendorID	ShipMethodID	OrderDate	ShipDate	SubTotal	Tax
1	12	4	4	254	1628	5	2011-12-14 00:00:00.000	2011-12-23 00:00:00.000	34644.225	277
2	23	4	4	257	1508	1	2011-12-15 00:00:00.000	2011-12-24 00:00:00.000	37312.275	298
3	42	5	4	254	1638	5	2012-01-16 00:00:00.000	2012-01-25 00:00:00.000	34644.225	277
4	69	4	4	259	1576	5	2012-01-25 00:00:00.000	2012-02-03 00:00:00.000	91117.95	728
5	91	4	4	258	1628	5	2012-02-23 00:00:00.000	2012-03-03 00:00:00.000	34644.225	277
6	102	4	4	254	1508	1	2012-03-08 00:00:00.000	2012-03-17 00:00:00.000	35394.975	283
7	121	4	4	250	1638	5	2012-03-09 00:00:00.000	2012-03-18 00:00:00.000	34644.225	277
8	148	4	4	256	1576	5	2012-04-11 00:00:00.000	2012-04-20 00:00:00.000	91117.95	728
9	170	4	4	260	1628	5	2012-05-30 00:00:00.000	2012-06-08 00:00:00.000	34644.225	277
10	200	4	4	260	1638	5	2012-06-25 00:00:00.000	2012-07-04 00:00:00.000	34644.225	277
11	227	5	4	255	1576	5	2012-08-24 00:00:00.000	2012-09-02 00:00:00.000	91117.95	728
12	249	4	4	259	1628	5	2012-09-21 00:00:00.000	2012-09-30 00:00:00.000	34644.225	277
13	260	4	4	260	1508	1	2012-10-02 00:00:00.000	2012-10-11 00:00:00.000	37312.275	298

Query executed successfully.

SABINPC\SQLEXPRESS02 (16.0 ... | SABINPC\Sabin (59) | AdventureWorks2019 | 00:00:00 | 194 rows



	PurchaseOrderID	RevisionNumber	Status	EmployeeID	VendorID	ShipMethodID	OrderDate	ShipDate	SubTotal	Tax
7	121	4	4	250	1638	5	2012-03-09 00:00:00.000	2012-03-18 00:00:00.000	34644.225	27
8	148	4	4	256	1576	5	2012-04-11 00:00:00.000	2012-04-20 00:00:00.000	91117.95	72
9	170	4	4	260	1628	5	2012-05-30 00:00:00.000	2012-06-08 00:00:00.000	34644.225	27
10	200	4	4	260	1638	5	2012-06-25 00:00:00.000	2012-07-04 00:00:00.000	34644.225	27
11	227	5	4	255	1576	5	2012-08-24 00:00:00.000	2012-09-02 00:00:00.000	91117.95	72
12	249	4	4	259	1628	5	2012-09-21 00:00:00.000	2012-09-30 00:00:00.000	34644.225	27
13	260	4	4	260	1508	1	2012-10-02 00:00:00.000	2012-10-11 00:00:00.000	37312.275	29
14	279	4	4	259	1638	5	2012-10-17 00:00:00.000	2012-10-26 00:00:00.000	34644.225	27
15	306	4	4	253	1576	5	2013-04-24 00:00:00.000	2013-05-03 00:00:00.000	91117.95	72
16	328	6	4	256	1628	5	2013-04-25 00:00:00.000	2013-05-04 00:00:00.000	34644.225	27
17	339	4	4	252	1508	1	2013-05-09 00:00:00.000	2013-05-18 00:00:00.000	37312.275	29
18	358	4	4	256	1638	5	2013-05-22 00:00:00.000	2013-05-31 00:00:00.000	34644.225	27
19	385	4	4	251	1576	5	2013-05-29 00:00:00.000	2013-06-07 00:00:00.000	91117.95	72
20	407	4	4	255	1628	5	2013-07-12 00:00:00.000	2013-07-21 00:00:00.000	34644.225	27
21	437	4	4	259	1628	5	2013-08-05 00:00:00.000	2013-08-14 00:00:00.000	34644.225	27
22	448	4	4	260	1508	1	2013-08-05 00:00:00.000	2013-08-14 00:00:00.000	37312.275	29
23	467	4	4	252	1638	5	2013-08-07 00:00:00.000	2013-08-16 00:00:00.000	34644.225	27
24	494	4	4	253	1576	5	2013-08-08 00:00:00.000	2013-08-17 00:00:00.000	91117.95	72
25	516	4	4	252	1628	5	2013-08-11 00:00:00.000	2013-08-20 00:00:00.000	34644.225	27
26	527	4	4	259	1508	1	2013-08-12 00:00:00.000	2013-08-21 00:00:00.000	37312.275	29
27	538	4	4	256	1508	1	2013-08-13 00:00:00.000	2013-08-22 00:00:00.000	37312.275	29
28	550	4	4	256	1638	5	2013-08-13 00:00:00.000	2013-08-22 00:00:00.000	34644.225	27
29	577	4	4	250	1576	5	2013-08-15 00:00:00.000	2013-08-24 00:00:00.000	91117.95	72
30	599	4	4	255	1628	5	2013-08-18 00:00:00.000	2013-08-27 00:00:00.000	34644.225	27

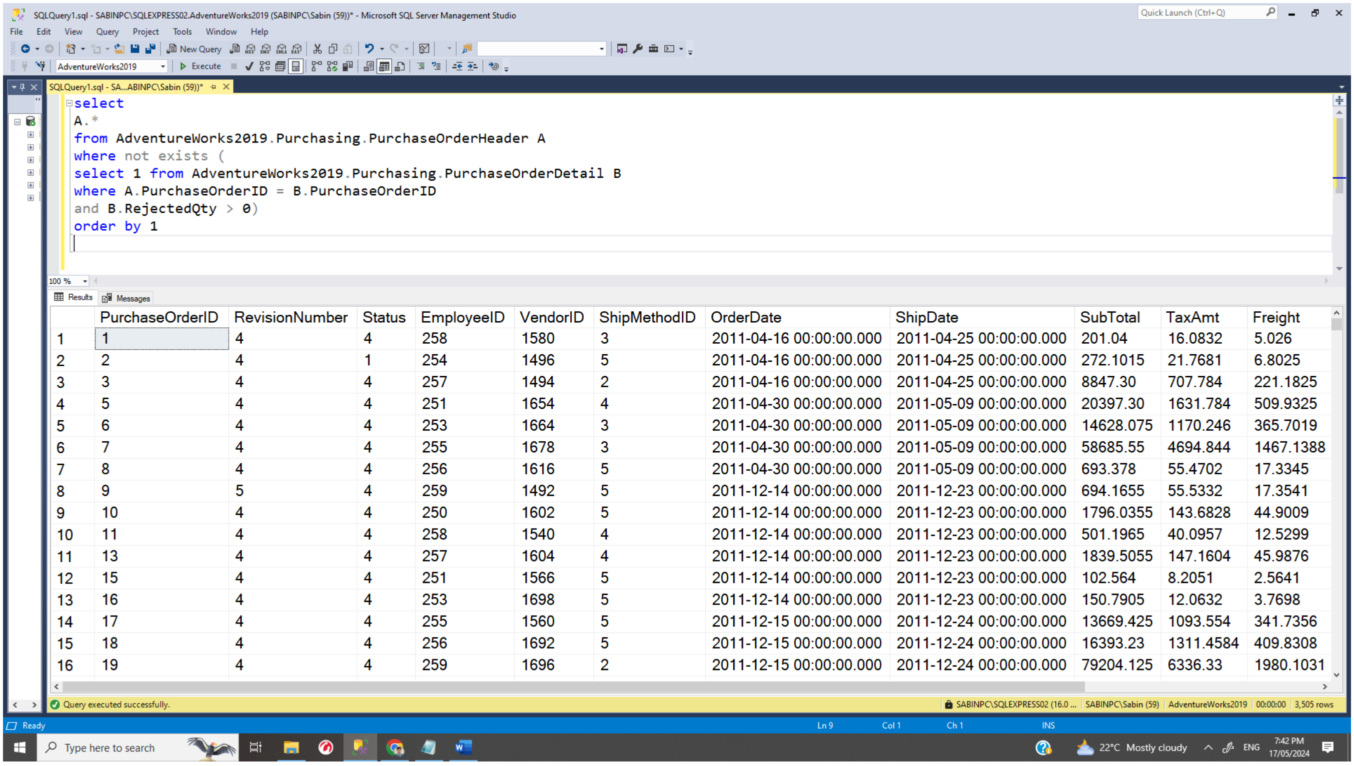
Query executed successfully.

SABINPC\SQLEXPRESS02 (16.0 ... | SABINPC\Sabin (59) | AdventureWorks2019 | 00:00:00 | 194 rows

Exercise 3: Select all records from the Purchasing.PurchaseOrderHeader table such that NONE of the items within the order have a rejected quantity greater than 0. Select ALL columns from the Purchasing.PurchaseOrderHeader table using the "SELECT *" shortcut.

Answer:

```
select

A.*

from AdventureWorks2019.Purchasing.PurchaseOrderHeader A

where not exists (

select 1 from AdventureWorks2019.Purchasing.PurchaseOrderDetail B

where A.PurchaseOrderID = B.PurchaseOrderID

and B.RejectedQty > 0)

order by 1
```

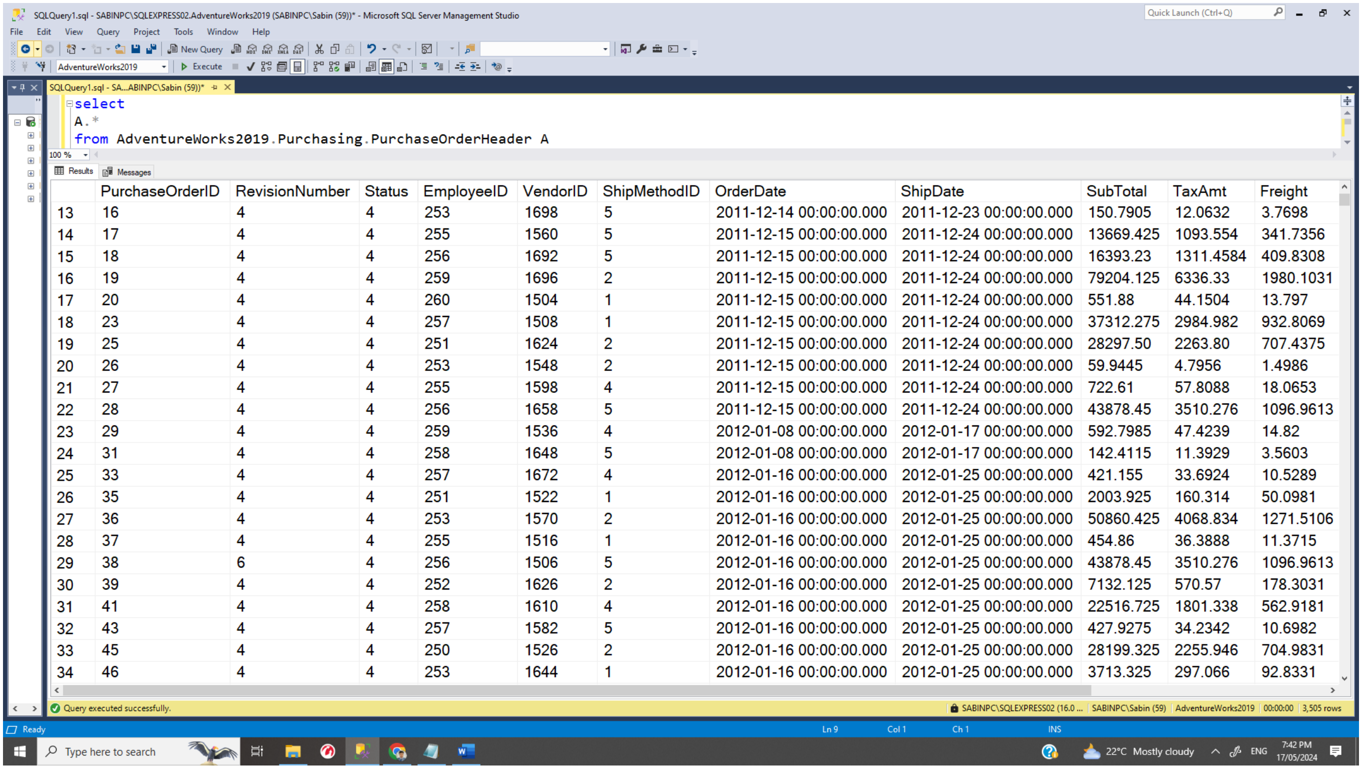

SQLQuery1.sql - SABINPC\SQLEXPRESS02.AdventureWorks2019 (SABINPC\Sabin (59))* - Microsoft SQL Server Management Studio
File Edit View Query Project Tools Window Help
New Query
AdventureWorks2019
Execute
SQLQuery1.sql - SA...ABINPC\Sabin (59))*
100 %
Results
Messages
Ready
Ln 9
Col 1
Ch 1
INS
Type here to search
22°C Mostly cloudy
ENG
7:42 PM
17/05/2024

```
select
A.*
from AdventureWorks2019.Purchasing.PurchaseOrderHeader A
where not exists (
select 1 from AdventureWorks2019.Purchasing.PurchaseOrderDetail B
where A.PurchaseOrderID = B.PurchaseOrderID
and B.RejectedQty > 0)
order by 1
```

	PurchaseOrderID	RevisionNumber	Status	EmployeeID	VendorID	ShipMethodID	OrderDate	ShipDate	SubTotal	TaxAmt	Freight
1	1	4	4	258	1580	3	2011-04-16 00:00:00.000	2011-04-25 00:00:00.000	201.04	16.0832	5.026
2	2	4	1	254	1496	5	2011-04-16 00:00:00.000	2011-04-25 00:00:00.000	272.1015	21.7681	6.8025
3	3	4	4	257	1494	2	2011-04-16 00:00:00.000	2011-04-25 00:00:00.000	8847.30	707.784	221.1825
4	5	4	4	251	1654	4	2011-04-30 00:00:00.000	2011-05-09 00:00:00.000	20397.30	1631.784	509.9325
5	6	4	4	253	1664	3	2011-04-30 00:00:00.000	2011-05-09 00:00:00.000	14628.075	1170.246	365.7019
6	7	4	4	255	1678	3	2011-04-30 00:00:00.000	2011-05-09 00:00:00.000	58685.55	4694.844	1467.1388
7	8	4	4	256	1616	5	2011-04-30 00:00:00.000	2011-05-09 00:00:00.000	693.378	55.4702	17.3345
8	9	5	4	259	1492	5	2011-12-14 00:00:00.000	2011-12-23 00:00:00.000	694.1655	55.5332	17.3541
9	10	4	4	250	1602	5	2011-12-14 00:00:00.000	2011-12-23 00:00:00.000	1796.0355	143.6828	44.9009
10	11	4	4	258	1540	4	2011-12-14 00:00:00.000	2011-12-23 00:00:00.000	501.1965	40.0957	12.5299
11	13	4	4	257	1604	4	2011-12-14 00:00:00.000	2011-12-23 00:00:00.000	1839.5055	147.1604	45.9876
12	15	4	4	251	1566	5	2011-12-14 00:00:00.000	2011-12-23 00:00:00.000	102.564	8.2051	2.5641
13	16	4	4	253	1698	5	2011-12-14 00:00:00.000	2011-12-23 00:00:00.000	150.7905	12.0632	3.7698
14	17	4	4	255	1560	5	2011-12-15 00:00:00.000	2011-12-24 00:00:00.000	13669.425	1093.554	341.7356
15	18	4	4	256	1692	5	2011-12-15 00:00:00.000	2011-12-24 00:00:00.000	16393.23	1311.4584	409.8308
16	19	4	4	259	1696	2	2011-12-15 00:00:00.000	2011-12-24 00:00:00.000	79204.125	6336.33	1980.1031

Query executed successfully.

SABINPC\SQLEXPRESS02 (16.0 ... | SABINPC\Sabin (59) | AdventureWorks2019 | 00:00:00 | 3,505 rows


SQLQuery1.sql - SABINPC\SQLEXPRESS02.AdventureWorks2019 (SABINPC\Sabin (59))* - Microsoft SQL Server Management Studio
File Edit View Query Project Tools Window Help
New Query
AdventureWorks2019
Execute
SQLQuery1.sql - SA...ABINPC\Sabin (59))*
100 %
Results
Messages
Ready
Ln 9
Col 1
Ch 1
INS
Type here to search
22°C Mostly cloudy
ENG
7:42 PM
17/05/2024

```
select
A.*
from AdventureWorks2019.Purchasing.PurchaseOrderHeader A
```

	PurchaseOrderID	RevisionNumber	Status	EmployeeID	VendorID	ShipMethodID	OrderDate	ShipDate	SubTotal	TaxAmt	Freight
13	16	4	4	253	1698	5	2011-12-14 00:00:00.000	2011-12-23 00:00:00.000	150.7905	12.0632	3.7698
14	17	4	4	255	1560	5	2011-12-15 00:00:00.000	2011-12-24 00:00:00.000	13669.425	1093.554	341.7356
15	18	4	4	256	1692	5	2011-12-15 00:00:00.000	2011-12-24 00:00:00.000	16393.23	1311.4584	409.8308
16	19	4	4	259	1696	2	2011-12-15 00:00:00.000	2011-12-24 00:00:00.000	79204.125	6336.33	1980.1031
17	20	4	4	260	1504	1	2011-12-15 00:00:00.000	2011-12-24 00:00:00.000	551.88	44.1504	13.797
18	23	4	4	257	1508	1	2011-12-15 00:00:00.000	2011-12-24 00:00:00.000	37312.275	2984.982	932.8069
19	25	4	4	251	1624	2	2011-12-15 00:00:00.000	2011-12-24 00:00:00.000	28297.50	2263.80	707.4375
20	26	4	4	253	1548	2	2011-12-15 00:00:00.000	2011-12-24 00:00:00.000	59.9445	4.7956	1.4986
21	27	4	4	255	1598	4	2011-12-15 00:00:00.000	2011-12-24 00:00:00.000	722.61	57.8088	18.0653
22	28	4	4	256	1658	5	2011-12-15 00:00:00.000	2011-12-24 00:00:00.000	43878.45	3510.276	1096.9613
23	29	4	4	259	1536	4	2012-01-08 00:00:00.000	2012-01-17 00:00:00.000	592.7985	47.4239	14.82
24	31	4	4	258	1648	5	2012-01-08 00:00:00.000	2012-01-17 00:00:00.000	142.4115	11.3929	3.5603
25	33	4	4	257	1672	4	2012-01-16 00:00:00.000	2012-01-25 00:00:00.000	421.155	33.6924	10.5289
26	35	4	4	251	1522	1	2012-01-16 00:00:00.000	2012-01-25 00:00:00.000	2003.925	160.314	50.0981
27	36	4	4	253	1570	2	2012-01-16 00:00:00.000	2012-01-25 00:00:00.000	50860.425	4068.834	1271.5106
28	37	4	4	255	1516	1	2012-01-16 00:00:00.000	2012-01-25 00:00:00.000	454.86	36.3888	11.3715
29	38	6	4	256	1506	5	2012-01-16 00:00:00.000	2012-01-25 00:00:00.000	43878.45	3510.276	1096.9613
30	39	4	4	252	1626	2	2012-01-16 00:00:00.000	2012-01-25 00:00:00.000	7132.125	570.57	178.3031
31	41	4	4	258	1610	4	2012-01-16 00:00:00.000	2012-01-25 00:00:00.000	22516.725	1801.338	562.9181
32	43	4	4	257	1582	5	2012-01-16 00:00:00.000	2012-01-25 00:00:00.000	427.9275	34.2342	10.6982
33	45	4	4	250	1526	2	2012-01-16 00:00:00.000	2012-01-25 00:00:00.000	28199.325	2255.946	704.9831
34	46	4	4	253	1644	1	2012-01-16 00:00:00.000	2012-01-25 00:00:00.000	3713.325	297.066	92.8331

Query executed successfully.

SABINPC\SQLEXPRESS02 (16.0 ... | SABINPC\Sabin (59) | AdventureWorks2019 | 00:00:00 | 3,505 rows

PIVOT - Exercises

Exercise 1: Using PIVOT, write a query against the HumanResources.Employee table that summarizes the average amount of vacation time for Sales Representatives, Buyers, and Janitors.

Answer:

Select

*

from

(

Select

JobTitle,

VacationHours

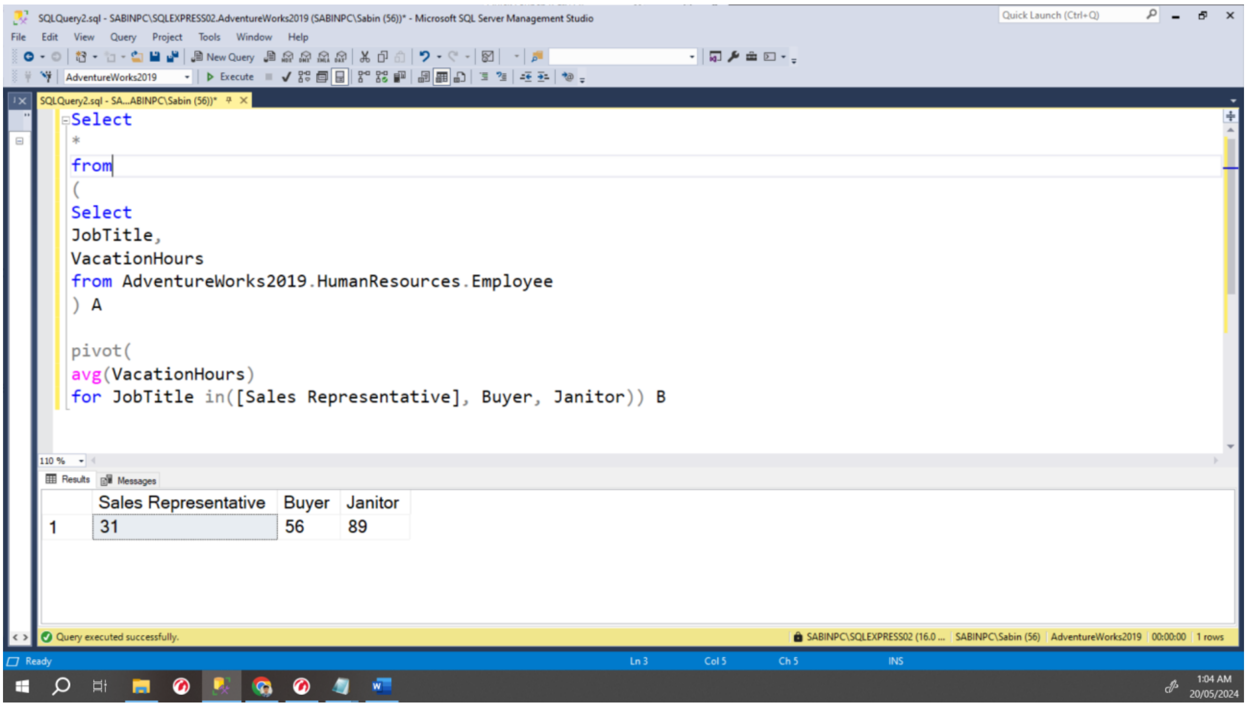
from AdventureWorks2019.HumanResources.Employee

) A

pivot(

avg(VacationHours)

for JobTitle in([Sales Representative], Buyer, Janitor)) B


SQLQuery2.sql - SABINPC\SQLEXPRESS02.AdventureWorks2019 (SABINPC\Sabin (56))* - Microsoft SQL Server Management Studio
File
Edit
View
Query
Project
Tools
Window
Help
New Query
AdventureWorks2019
Execute
SQLQuery2.sql - SA...ABINPC\Sabin (56))*
110 %
Results
Messages
Ready
Ln 3
Col 5
Ch 5
INS
1:04 AM
20/05/2024

```
Select
*
from
(
Select
JobTitle,
VacationHours
from AdventureWorks2019.HumanResources.Employee
) A

pivot(
avg(VacationHours)
for JobTitle in([Sales Representative], Buyer, Janitor)) B
```

	Sales Representative	Buyer	Janitor
1	31	56	89

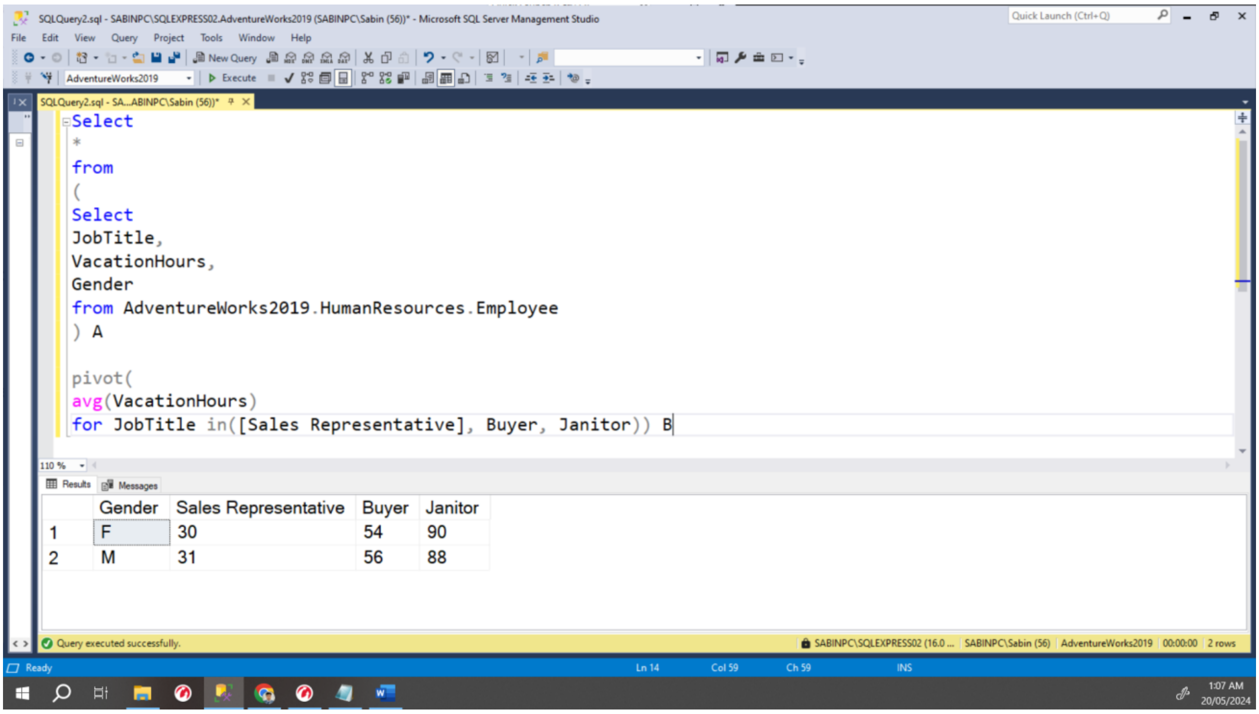
Query executed successfully.

SABINPC\SQLEXPRESS02 (16.0 ... | SABINPC\Sabin (56) | AdventureWorks2019 | 00:00:00 | 1 rows

Exercise 2: Modify your query from Exercise 1 such that the results are broken out by Gender. Alias the Gender field as "Employee Gender" in your output.

Answer:

```
Select
*
from
(
Select
JobTitle,
VacationHours,
Gender
from AdventureWorks2019.HumanResources.Employee
) A
pivot(
avg(VacationHours)
for JobTitle in([Sales Representative], Buyer, Janitor)) B
```



SQLQuery2.sql - SABINPC\SQLEXPRESS02.AdventureWorks2019 (SABINPC\Sabin (56))* - Microsoft SQL Server Management Studio
Quick Launch (Ctrl+Q)
File
Edit
View
Query
Project
Tools
Window
Help
New Query
AdventureWorks2019
Execute
SQLQuery2.sql - SA...ABINPC\Sabin (56))*
110 %
Results
Messages
Query executed successfully.
SABINPC\SQLEXPRESS02 (16.0 ...
SABINPC\Sabin (56)
AdventureWorks2019
00:00:00
2 rows
Ready
Ln 14
Col 59
Ch 59
INS
1:07 AM
20/05/2024

```
Select
*
from
(
Select
JobTitle,
VacationHours,
Gender
from AdventureWorks2019.HumanResources.Employee
) A

pivot(
avg(VacationHours)
for JobTitle in([Sales Representative], Buyer, Janitor)) B
```

	Gender	Sales Representative	Buyer	Janitor
1	F	30	54	90
2	M	31	56	88

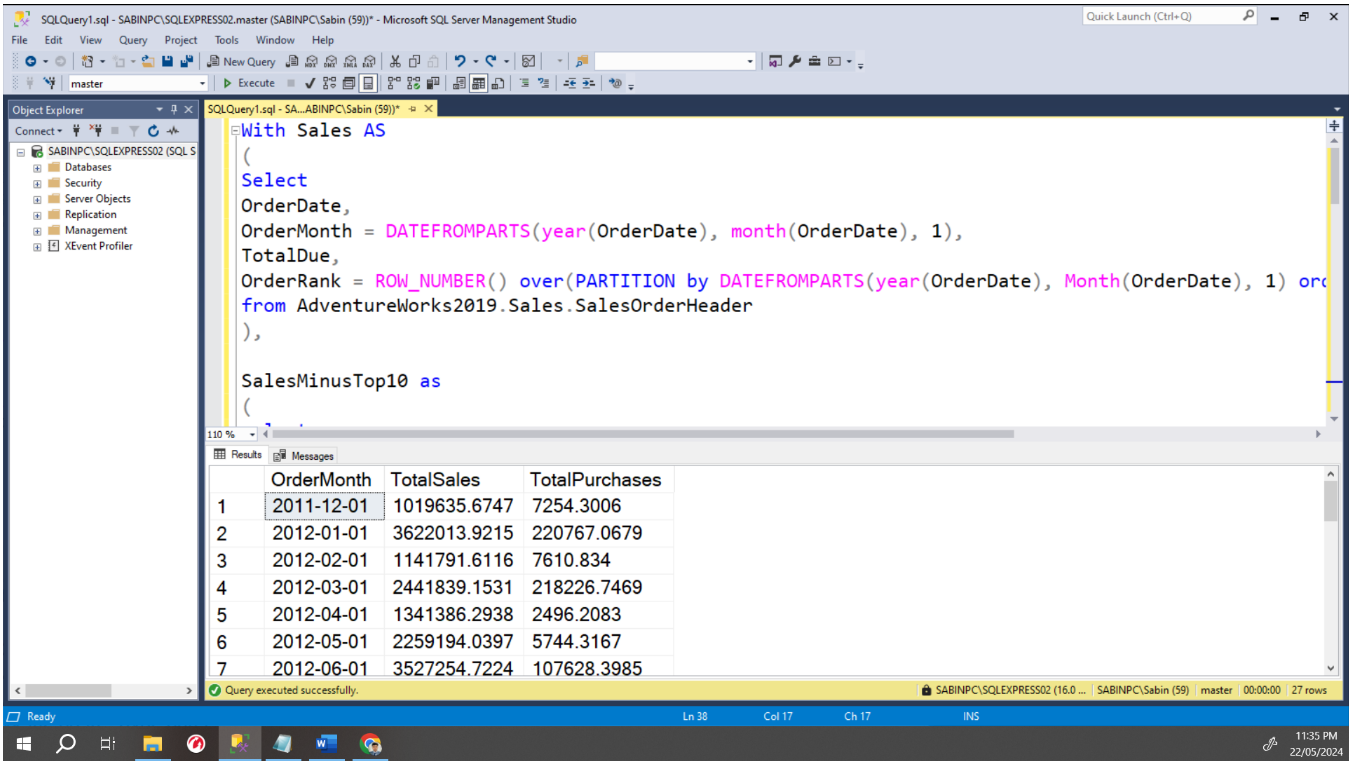
CTEs - Exercise

For this exercise, assume the CEO of our fictional company decided that the top 10 orders per month are actually outliers that need to be clipped out of our data before doing meaningful analysis.

Further, she would like the sum of sales AND purchases (minus these "outliers") listed side by side, by month.

Answer:

```
With Sales AS
(
Select
OrderDate,
OrderMonth = DATEFROMPARTS(year(OrderDate), month(OrderDate), 1),
TotalDue,
OrderRank = ROW_NUMBER() over(PARTITION by DATEFROMPARTS(year(OrderDate),
Month(OrderDate), 1) order by TotalDue desc)
from AdventureWorks2019.Sales.SalesOrderHeader
),


SalesMinusTop10 as
(
select
OrderMonth,
TotalSales = sum(TotalDue) from Sales where OrderRank > 10 group by OrderMonth
),


Purchases as
(
Select
OrderDate,
OrderMonth = DATEFROMPARTS(Year(OrderDate), Month(OrderDate), 1),
TotalDue,
OrderRank = row_number() over(Partition by DATEFROMPARTS(year(OrderDate), Month(OrderDate), 1) order by TotalDue desc)
from AdventureWorks2019.Purchasing.PurchaseOrderHeader
),

PurchasesMinusTop10 as
(
Select
OrderMonth,
TotalPurchases = sum(TotalDue) from Purchases where OrderRank > 10 group by OrderMonth
)

Select
A.OrderMonth,
A.TotalSales,
B.TotalPurchases
from SalesMinusTop10 A
Join PurchasesMinusTop10 B
on A.OrderMonth = B.OrderMonth
order by OrderMonth
```

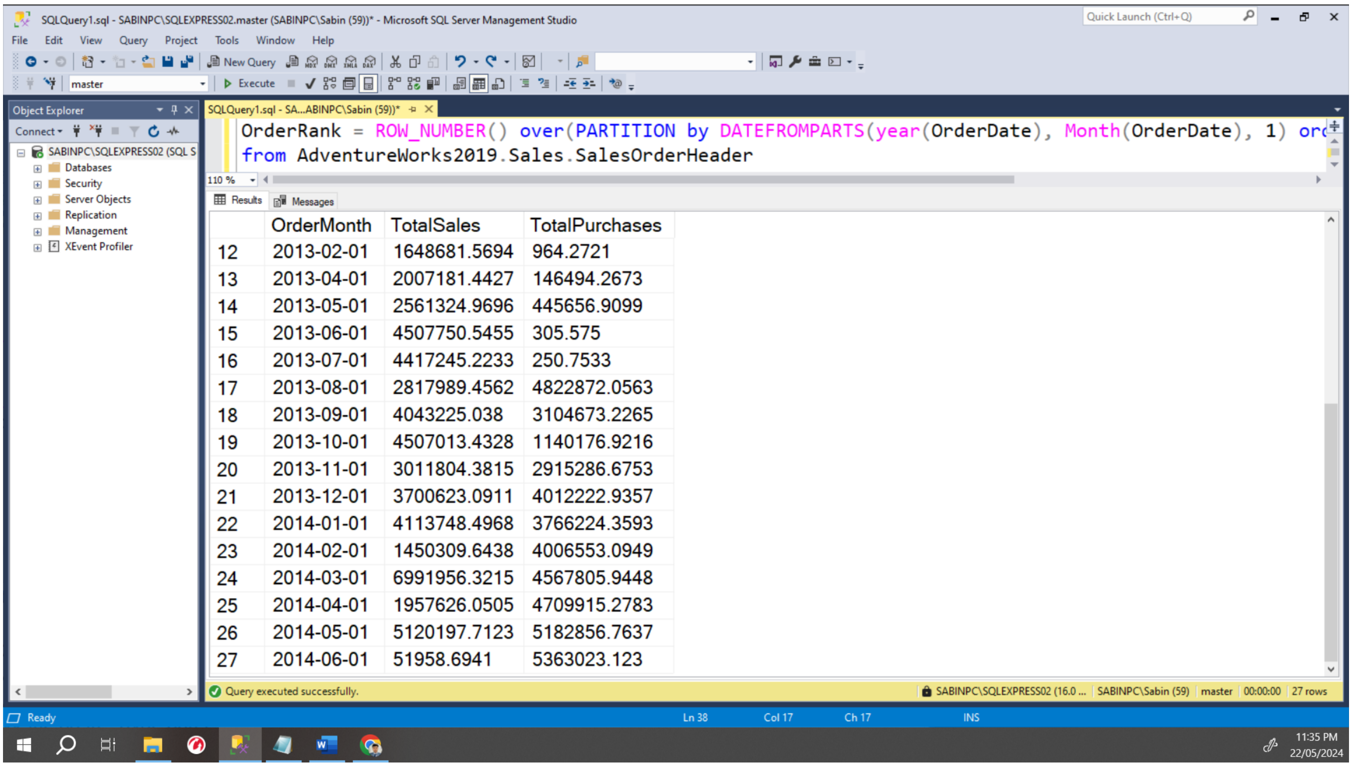


SQLQuery1.sql - SABINPC\SQLEXPRESS02.master (SABINPC\Sabin (59))* - Microsoft SQL Server Management Studio

```sql
With Sales AS
(
Select
OrderDate,
OrderMonth = DATEFROMPARTS(year(OrderDate), month(OrderDate), 1),
TotalDue,
OrderRank = ROW_NUMBER() over(PARTITION by DATEFROMPARTS(year(OrderDate), Month(OrderDate), 1) orc
from AdventureWorks2019.Sales.SalesOrderHeader
),

SalesMinusTop10 as
(
```

```
   OrderMonth   TotalSales     TotalPurchases
1  2011-12-01   1019635.6747   7254.3006
2  2012-01-01   3622013.9215   220767.0679
3  2012-02-01   1141791.6116   7610.834
4  2012-03-01   2441839.1531   218226.7469
5  2012-04-01   1341386.2938   2496.2083
6  2012-05-01   2259194.0397   5744.3167
7  2012-06-01   3527254.7224   107628.3985
```

Query executed successfully. | SABINPC\SQLEXPRESS02 (16.0 ... | SABINPC\Sabin (59) | master | 00:00:00 | 27 rows



```sql
OrderRank = ROW_NUMBER() over(PARTITION by DATEFROMPARTS(year(OrderDate), Month(OrderDate), 1) orc
from AdventureWorks2019.Sales.SalesOrderHeader
```

```
    OrderMonth   TotalSales     TotalPurchases
12  2013-02-01   1648681.5694   964.2721
13  2013-04-01   2007181.4427   146494.2673
14  2013-05-01   2561324.9696   445656.9099
15  2013-06-01   4507750.5455   305.575
16  2013-07-01   4417245.2233   250.7533
17  2013-08-01   2817989.4562   4822872.0563
18  2013-09-01   4043225.038    3104673.2265
19  2013-10-01   4507013.4328   1140176.9216
20  2013-11-01   3011804.3815   2915286.6753
21  2013-12-01   3700623.0911   4012222.9357
22  2014-01-01   4113748.4968   3766224.3593
23  2014-02-01   1450309.6438   4006553.0949
24  2014-03-01   6991956.3215   4567805.9448
25  2014-04-01   1957626.0505   4709915.2783
26  2014-05-01   5120197.7123   5182856.7637
27  2014-06-01   51958.6941     5363023.123
```

Query executed successfully. | SABINPC\SQLEXPRESS02 (16.0 ... | SABINPC\Sabin (59) | master | 00:00:00 | 27 rows