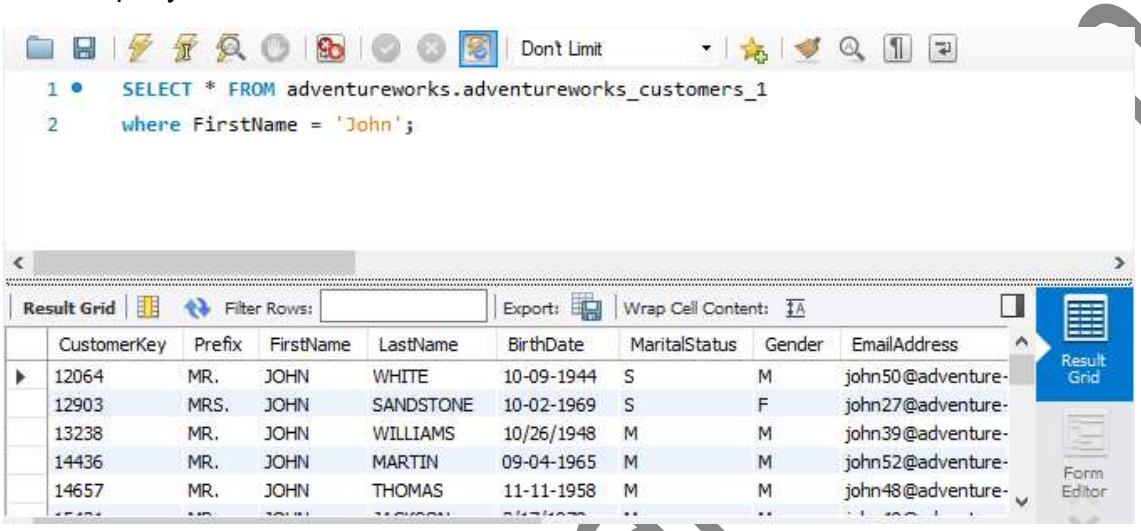
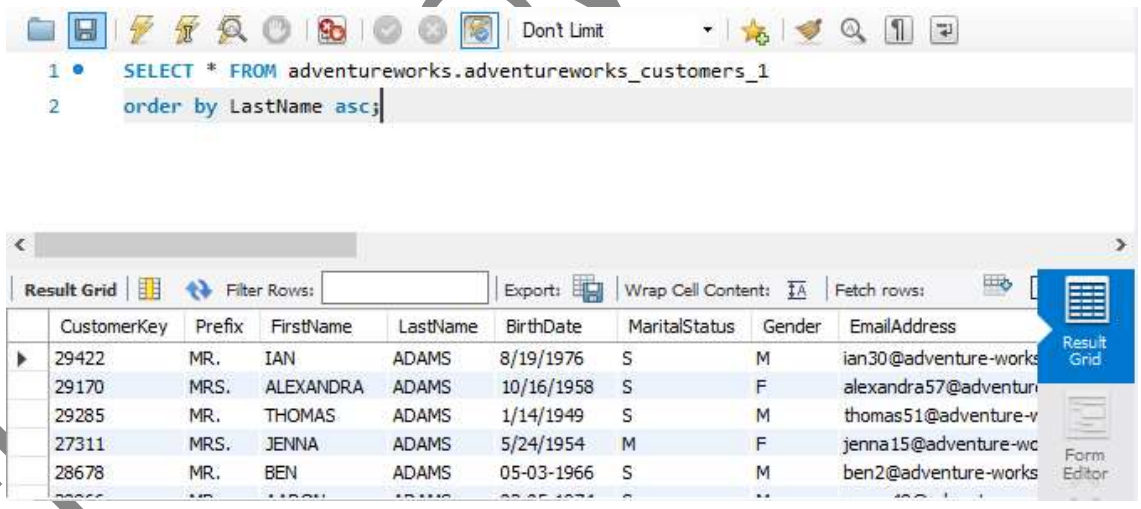
Practicable Problem Solving SQL Scripts

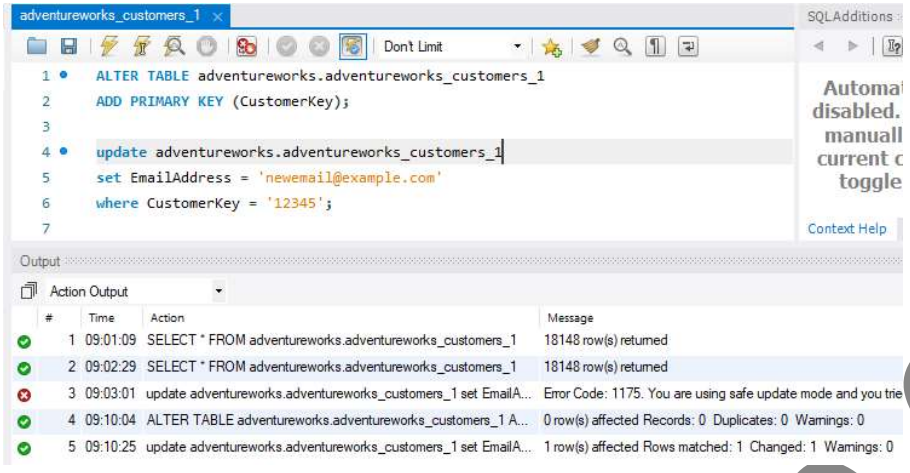
1. Write a query to find all customers with the first name 'John'.



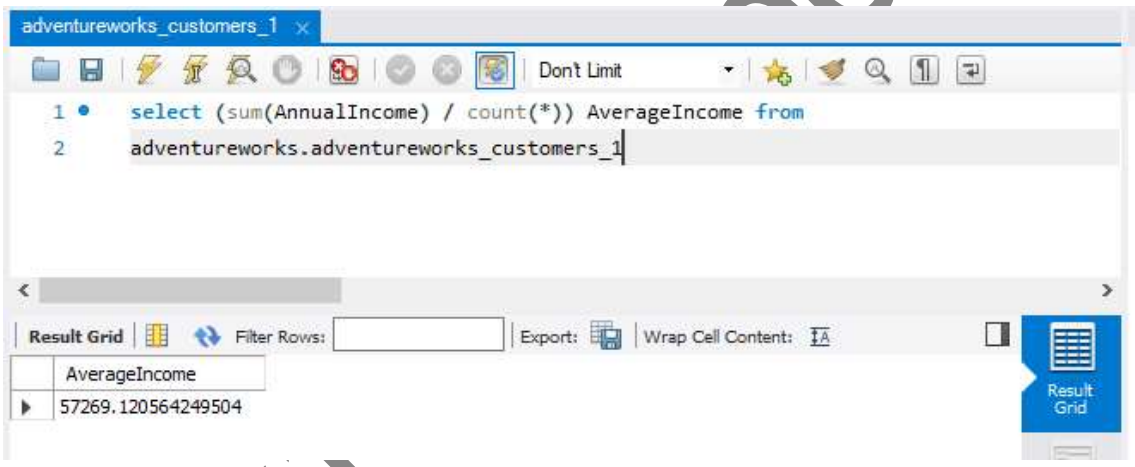
2. Create a query to sort customers alphabetically by their last name in ascending order.



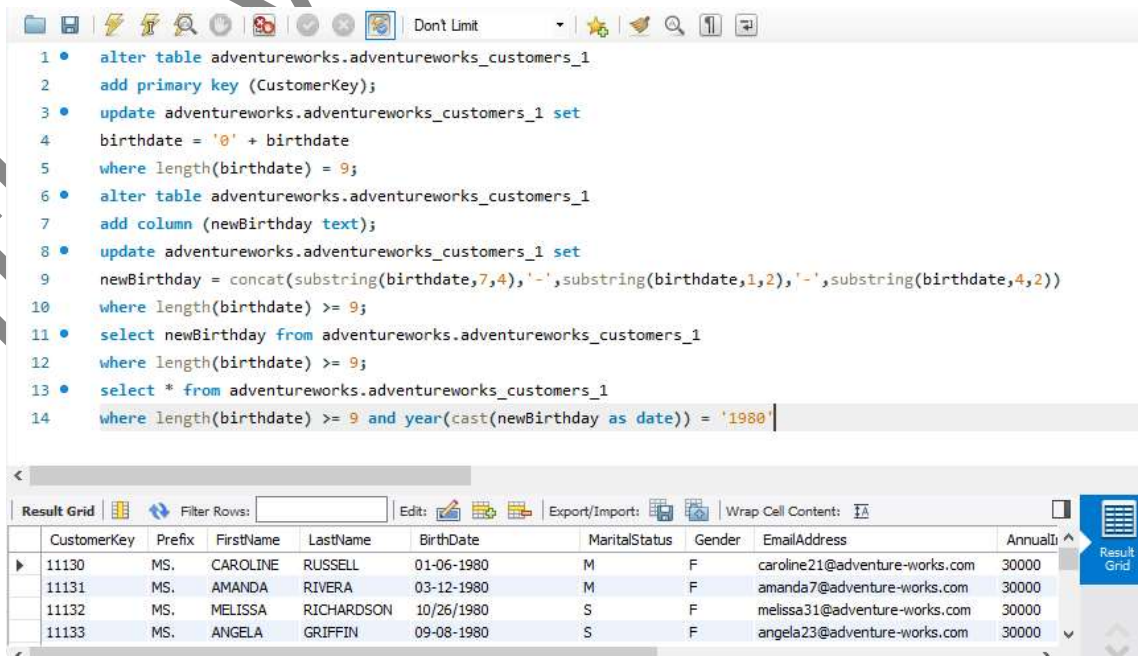
3. Write a query that updates the email address of a customer with CustomerKey 12345 to 'newemail@example.com'.



4. Create a query to calculate the average annual income of customers.



5. Write a query to find customers who were born in the year 1980.



6. Create a query that counts the number of customers with a specific marital status (e.g., Single).

```
1 •  select count(*) Total_Singles from adventureworks.adventureworks_customers_1
2    where MaritalStatus = 'S'
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Total_Singles
8331

7. Write a query to update the marital status of customers with a specific prefix (e.g., Mr.) to 'Married'.

Schema | adventureworks_customers | myadventureworks - Schema | adventureworks_customers_1 | adventureworks - Schema | adventurew

Don't Limit

```
1 •  update adventureworks.adventureworks_customers_1 set
2    MaritalStatus = 'M'
3    where prefix = 'MR.'
4
```

Output

Action Output

#	Time	Action	Message
1	12:04:09	update adventureworks.adventureworks_customers_1 set MaritalStatus = 'M' where prefix ...	3985 row(s) affected Rows matched: 9126 Changed:

8. Create a query to calculate the total number of customers with a specific education level (e.g., Bachelor's degree).

```
select count(*) from adventureworks.adventureworks_customers_1
where EducationLevel = 'Bachelors'
```

count(*)
5261

9. Write a query that counts the number of customers in each occupation category.

```
select count(*) TotalCount, Occupation from adventureworks.adventureworks_customers_1
group by Occupation
```

TotalCount	Occupation
5424	Professional
3011	Management
4501	Skilled Manual
2859	Clerical
2353	Manual

10. Create a query to find the oldest customer in the dataset based on their birthdate.

```
select * from adventureworks.adventureworks_customers_1
where length(birthdate) >= 9
order by newbirthday asc
limit 1
```

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome
14841	MR.	FRANKLIN	PAL	12-07-1911	M	M	franklin30@adventure-works.com	20000

11. Write a query to find customers who have at least two children.

```
select *  from adventureworks.adventureworks_customers_1
where TotalChildren >= 2
```

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncom
11000	MR.	JON	YANG	04-08-1966	M	M	jon24@adventure-works.com	90000
11001	MR.	EUGENE	HUANG	5	M	M	eugene10@adventure-works.com	60000
11002	MR.	RUBEN	TORRES	08-12-1965	M	M	ruben35@adventure-works.com	60000
11004	MRS.	ELIZABETH	JOHNSON	08-08-1968	S	F	elizabeth5@adventure-works.com	80000
11007	MR.	MARCO	MEHTA	05-09-1964	M	M	marco14@adventure-works.com	60000
11008	MRS.	ROBIN	VERHOFF	07-07-1964	S	F	rob4@adventure-works.com	60000
11011	MR.	CURTIS	LU	11-04-1963	M	M	curtis9@adventure-works.com	60000

12. Create a query that calculates the sum of annual income for customers with a specific gender (e.g., Male).

```
select sum(AnnualIncome) TotalAnnualIncome  from adventureworks.adventureworks_customers_1
where Gender = 'M'
```

TotalAnnualIncome
522500000

13. Write a query to find customers with an annual income between $50,000 and $100,000.

```
select * from adventureworks.adventureworks_customers_1
where AnnualIncome between '50000' and '100000'
```

omerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome
0	MR.	JON	YANG	04-08-1966	M	M	jon24@adventure-works.com	90000
1	MR.	EUGENE	HUANG	5	M	M	eugene10@adventure-works.com	60000
2	MR.	RUBEN	TORRES	08-12-1965	M	M	ruben35@adventure-works.com	60000
3	MS.	CHRISTY	ZHU	2	S	F	christy12@adventure-works.com	70000
4	MRS.	ELIZABETH	JOHNSON	08-08-1968	S	F	elizabeth5@adventure-works.com	80000
5	MR.	JULIO	RUIZ	08-05-1965	M	M	julio1@adventure-works.com	70000

14. Create a query that extracts the first three characters of the first name for each customer.

```
1 •  select substring(Firstname,1,3) First3Charater, Firstname from
2     adventureworks.adventureworks_customers_1
3
4
5
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

First3Charater	Firstname
JON	JON
EUG	EUGENE
RUB	RUBEN
CHR	CHRISTY
ELI	ELIZABETH
JUL	JULIO
MAR	MARCO
ROB	ROBIN

15. Write a query to find customers with a specific prefix (e.g., Dr.) and a specific education level (e.g., Master's degree).

```
1 •  select * from
2    adventureworks.adventureworks_customers_1
3    where Prefix = 'Mr.'
4    and EducationLevel = 'Bachelors'
5
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: | Fetch rows:

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncom
11000	MR.	JON	YANG	04-08-1966	M	M	jon24@adventure-works.com	90000
11001	MR.	EUGENE	HUANG	5	M	M	eugene10@adventure-works.com	60000
11002	MR.	RUBEN	TORRES	08-12-1965	M	M	ruben35@adventure-works.com	60000
11005	MR.	JULIO	RUIZ	08-05-1965	M	M	julio1@adventure-works.com	70000
11007	MR.	MARCO	MEHTA	05-09-1964	M	M	marco14@adventure-works.com	60000
11009	MR.	SHANNON	CARLSON	04-01-1964	M	M	shannon38@adventure-works.com	70000
11011	MR.	CURTIS	LU	11-04-1963	M	M	curtis9@adventure-works.com	60000

16. Create a query to count the number of customers in each gender category.

Don't Limit

```
1 •  select count(*) TotalCustomer , gender from
2    adventureworks.adventureworks_customers_1
3    group by gender
4
5
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

count(*)	gender
9126	M
8892	F
130	NA

17. Write a query that updates the prefix of all customers with CustomerKey greater than 10000 to 'Ms.'.

```
update
adventureworks.adventureworks_customers_1
set Prefix = 'Ms'
where CustomerKey > 10000
```

Output

Action Output

#	Time	Action	Message
1	12:54:44	update adventureworks.adventureworks_customers_1 set Prefix = 'Ms' where CustomerKe...	18148 row(s) affected Rows matched: 18148

18. Create a query to find the average age of customers with a specific annual income range (e.g., $75,000 - $100,000).

```
select sum(floor(datediff(curdate(),newbirthday)/ 365)) / count(*) AveAge from
adventureworks.adventureworks_customers_1
where annualincome between '75000' and '100000'
and length(birthdate) >= 9
```

Result Grid

AveAge
62.8848

19. Write a query to find customers who were born on a specific day of the week (e.g., Monday).

```
select * from
adventureworks.adventureworks_customers_1
where length(birthdate) >= 9
and dayname(newbirthday) = 'Monday'
```

Result Grid

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualInc
11011	Ms	CURTIS	LU	11-04-1963	M	M	curtis9@adventure-works.com	60000
11018	Ms	CLARENCE	RAI	10-09-1944	M	M	clarence32@adventure-works.com	30000
11036	Ms	JENNIFER	RUSSELL	12/18/1978	M	F	jennifer93@adventure-works.com	60000
11040	Ms	JESSE	MURPHY	08-01-1977	M	M	jesse15@adventure-works.com	30000
11054	Ms	DEANNA	MUNOZ	03-10-1952	M	F	deanna33@adventure-works.com	40000
11057	Ms	CARL	ANDERSEN	10-12-1953	M	M	carl12@adventure-works.com	70000
11063	Ms	ANGELA	MURPHY	04-07-1975	S	F	angela41@adventure-works.com	40000
11086	Ms	RYAN	BROWN	12/23/1957	M	M	ryan43@adventure-works.com	70000
11098	Ms	MALLORY	RUBIO	05-01-1961	S	F	mallory7@adventure-works.com	60000

20. Create a query that identifies customers who have not provided their email address.

```
1 • select * from
2   adventureworks.adventureworks_customers_1
3   where isnull(emailAddress) = true
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	TotalChildren	Edu
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

21. Write a query to find customers with an odd-numbered CustomerKey.

```
1 • select * from
2   adventureworks.adventureworks_customers_1
3   where mod(customerKey,2) = 1;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: | Fetch rows:

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncom
11001	Ms	EUGENE	HUANG	5	M	M	eugene10@adventure-works.com	60000
11003	Ms	CHRISTY	ZHU	2	S	F	christy12@adventure-works.com	70000
11005	Ms	JULIO	RUIZ	08-05-1965	M	M	julio1@adventure-works.com	70000
11007	Ms	MARCO	MEHTA	05-09-1964	M	M	marco14@adventure-works.com	60000
11009	Ms	SHANNON	CARLSON	04-01-1964	M	M	shannon38@adventure-works.com	70000
11011	Ms	CURTIS	LU	11-04-1963	M	M	curtis9@adventure-works.com	60000
11013	Ms	IAN	JENKINS	08-06-1968	M	M	ian47@adventure-works.com	100000
11015	Ms	CHLOE	YOUNG	2	S	F	chloe23@adventure-works.com	30000
11017	Ms	SHANNON	WANG	6	S	F	shannon1@adventure-works.com	20000

Result Grid | Form Editor | Field Types

22. Create a query to calculate the average annual income of customers with a specific occupation (e.g., Engineer).

```
select (sum(AnnualIncome)/ count(*)) AveAnnualIcome_Management  from
adventureworks.adventureworks_customers_1
where Occupation = 'Management'
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

AveAnnualIcome_Management
92218.5320491531

23. Write a query to find the customer with the highest annual income.

```
select * from
adventureworks.adventureworks_customers_1
order by AnnualIncome desc limit 1
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	Tot
28880	Ms	FELICIA	MOYER	8	S	F	felicia9@adventure-works.com	170000	4
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

24. Create a query that sorts customers by their annual income in descending order.

```
select * from
adventureworks.adventureworks_customers_1
order by AnnualIncome desc
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: | Fetch rows:

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	TotalChildren
28879	Ms	EDWIN	XIE	12-01-1957	M	M	edwin25@adventure-works.com	170000	3
28880	Ms	FELICIA	MOYER	8	S	F	felicia9@adventure-works.com	170000	4
28884	Ms	SHEILA	SUAREZ	10-03-1956	S	F	sheila17@adventure-works.com	170000	3
28908	Ms	DOMINIQUE	SAI	3	S	F	dominique5@adventure-works.com	170000	0
28914	Ms	ALICIA	RAI	11/20/1950	M	F	alicia14@adventure-works.com	170000	0
26540	Ms	JADA	SANCHEZ	10/22/1968	S	F	jada16@adventure-works.com	170000	1
26723	Ms	DEVIN	KELLY	09-01-1960	M	M	devin64@adventure-works.com	170000	1
27305	Ms	TERRY	NARA	10-06-1957	M	M	terry19@adventure-works.com	170000	2
27663	Ms	AARON	COLLINS	9	M	M	aaron35@adventure-works.com	170000	1

25. Write a query to find customers with a specific suffix in their email address (e.g., @gmail.com).

```
select * from
adventureworks.adventureworks_customers_1
order by AnnualIncome desc
```

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	TotalChildren
28879	Ms	EDWIN	XIE	12-01-1957	M	M	edwin25@adventure-works.com	170000	3
28880	Ms	FELICIA	MOYER	8	S	F	felicia9@adventure-works.com	170000	4
28884	Ms	SHEILA	SUAREZ	10-03-1956	S	F	sheila17@adventure-works.com	170000	3
28908	Ms	DOMINIQUE	SAI	3	S	F	dominique5@adventure-works.com	170000	0
28914	Ms	ALICIA	RAI	11/20/1950	M	F	alicia14@adventure-works.com	170000	0
26540	Ms	JADA	SANCHEZ	10/22/1968	S	F	jada16@adventure-works.com	170000	1
26723	Ms	DEVIN	KELLY	09-01-1960	M	M	devin64@adventure-works.com	170000	1
27305	Ms	TERRY	NARA	10-06-1957	M	M	terry19@adventure-works.com	170000	2
27663	Ms	AARON	COLLINS	9	M	M	aaron35@adventure-works.com	170000	1

26. Create a query to calculate the total number of customers in the dataset.

```
select count(*) TotalCustomers from
adventureworks.adventureworks_customers_1
```

TotalCustomers
18148

27. Write a query that calculates the number of customers with each marital status within a specific gender group (e.g., Male).

```
select count(*) TotalCustomers, MaritalStatus from
adventureworks.adventureworks_customers_1
where gender = 'M'
group by MaritalStatus
```

Result Grid | Filter Rows: | Export: | Wrap Cell Conte

TotalCustomers	MaritalStatus
9126	M

28. Create a query to find customers whose first name contains a specific letter (e.g., 'a').

```
select * from
adventureworks.adventureworks_customers_1
where firstname like '%a%'
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: | Fetch rows:

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	TotalChildren
11004	Ms	ELIZABETH	JOHNSON	08-08-1968	S	F	elizabeth5@adventure-works.com	80000	5
11007	Ms	MARCO	MEHTA	05-09-1964	M	M	marco14@adventure-works.com	60000	3
11009	Ms	SHANNON	CARLSON	04-01-1964	M	M	shannon38@adventure-works.com	70000	0
11010	Ms	JACQUELYN	SUAREZ	02-06-1964	S	F	jacquelyn20@adventure-works.com	70000	0
11012	Ms	LAUREN	WALKER	1	M	F	lauren41@adventure-works.com	100000	2
11013	Ms	IAN	JENKINS	08-06-1968	M	M	ian47@adventure-works.com	100000	2
11016	Ms	WYATT	HILL	4	M	M	wyatt32@adventure-works.com	30000	0
11017	Ms	SHANNON	WANG	6	S	F	shannon1@adventure-works.com	20000	4

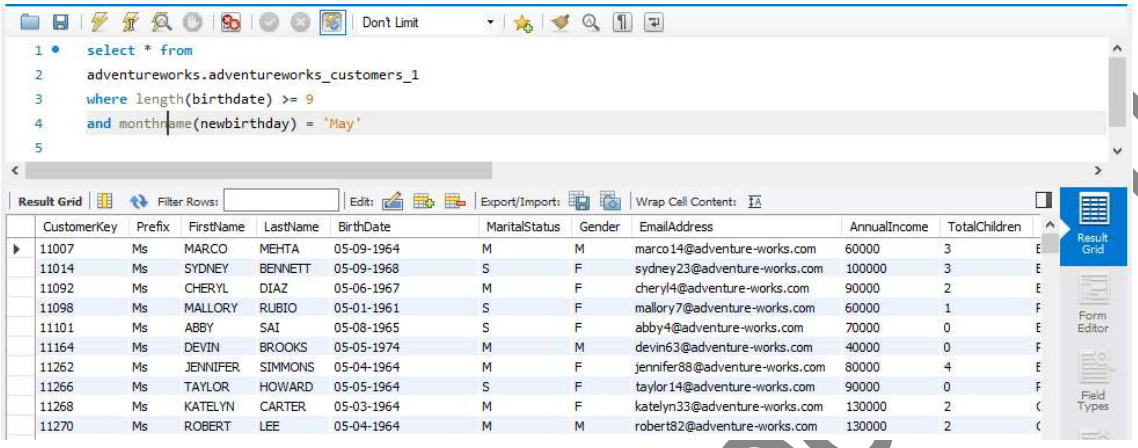
29. Write a query to count the number of customers with an even-numbered CustomerKey.

```
select count(*) TotalCustomers from
adventureworks.adventureworks_customers_1
where Mod(CustomerKey,2)=0
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

TotalCustomers
9070

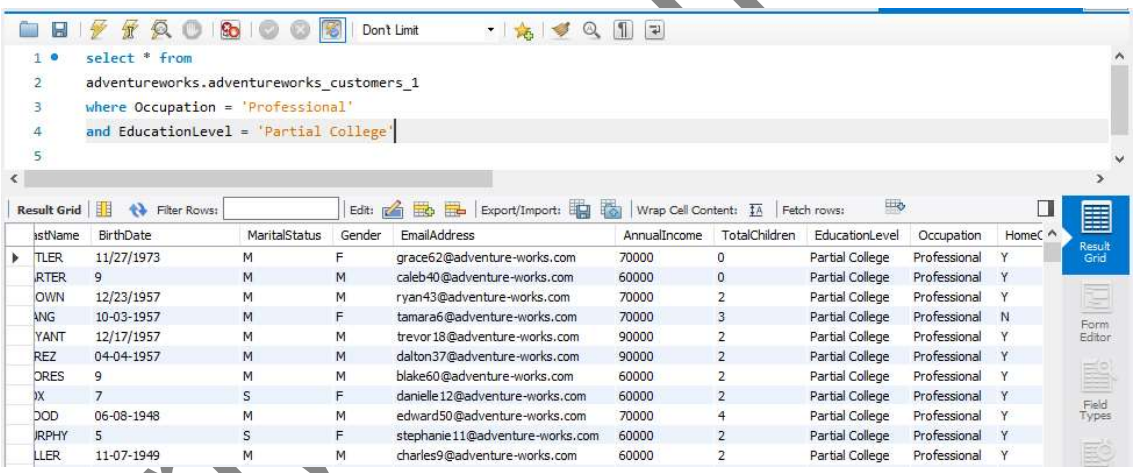
30. Create a query to find customers who were born in a specific month (e.g., May).



```
select * from
adventureworks.adventureworks_customers_1
where length(birthdate) >= 9
and monthname(newbirthday) = 'May'
```

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	TotalChildren
11007	Ms	MARCO	MEHTA	05-09-1964	M	M	marco14@adventure-works.com	60000	3
11014	Ms	SYDNEY	BENNETT	05-09-1968	S	F	sydney23@adventure-works.com	100000	3
11092	Ms	CHERYL	DIAZ	05-06-1967	M	F	cheryl4@adventure-works.com	90000	2
11098	Ms	MALLORY	RUBIO	05-01-1961	S	F	mallory7@adventure-works.com	60000	1
11101	Ms	ABBY	SAI	05-08-1965	S	F	abby4@adventure-works.com	70000	0
11164	Ms	DEVIN	BROOKS	05-05-1974	M	M	devin63@adventure-works.com	40000	0
11262	Ms	JENNIFER	SIMMONS	05-04-1964	M	F	jennifer88@adventure-works.com	80000	4
11266	Ms	TAYLOR	HOWARD	05-05-1964	S	F	taylor14@adventure-works.com	90000	0
11268	Ms	KATELYN	CARTER	05-03-1964	M	F	katelyn33@adventure-works.com	130000	2
11270	Ms	ROBERT	LEE	05-04-1964	M	M	robert82@adventure-works.com	130000	2

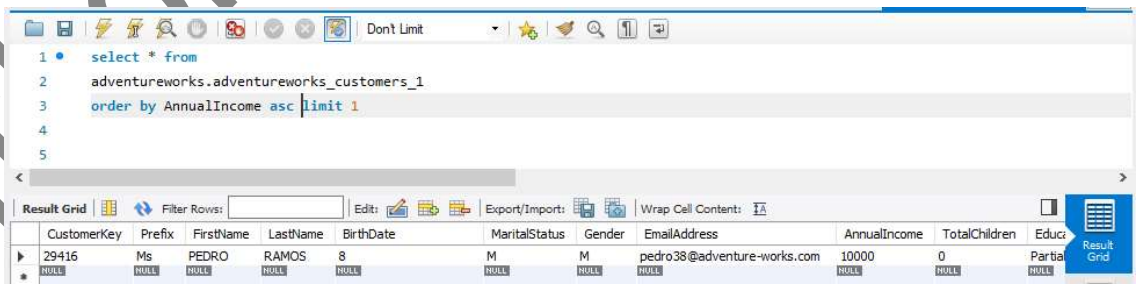
31. Write a query to find customers with a specific occupation and a specific education level.



```
select * from
adventureworks.adventureworks_customers_1
where Occupation = 'Professional'
and EducationLevel = 'Partial College'
```

stName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	TotalChildren	EducationLevel	Occupation	HomeO
TLER	11/27/1973	M	F	grace62@adventure-works.com	70000	0	Partial College	Professional	Y
RTER	9	M	M	caleb40@adventure-works.com	60000	0	Partial College	Professional	Y
OWN	12/23/1957	M	M	ryan43@adventure-works.com	70000	2	Partial College	Professional	Y
NG	10-03-1957	M	F	tamara6@adventure-works.com	70000	3	Partial College	Professional	N
YANT	12/17/1957	M	M	trevor18@adventure-works.com	90000	2	Partial College	Professional	Y
REZ	04-04-1957	M	M	dalton37@adventure-works.com	90000	2	Partial College	Professional	Y
ORES	9	M	M	blake60@adventure-works.com	60000	2	Partial College	Professional	Y
X	7	S	F	danielle12@adventure-works.com	60000	2	Partial College	Professional	Y
OOD	06-08-1948	M	M	edward50@adventure-works.com	70000	4	Partial College	Professional	Y
URPHY	5	S	F	stephanie11@adventure-works.com	60000	2	Partial College	Professional	Y
LLER	11-07-1949	M	M	charles9@adventure-works.com	60000	2	Partial College	Professional	Y

32. Create a query that finds the customer with the lowest annual income.



```
select * from
adventureworks.adventureworks_customers_1
order by AnnualIncome asc limit 1
```

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	TotalChildren	Educa
29416	Ms	PEDRO	RAMOS	8	M	M	pedro38@adventure-works.com	10000	0	Partia

33. Write a query to sort customers by their birthdate in descending order.

```
1 •  select * from
2    adventureworks.adventureworks_customers_1
3    where length(birthdate) >= 9
4    order by newbirthday desc
5
```

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	TotalChildren
17856	Ms	ROGER	RAI	12/26/1980	M	M	roger45@adventure-works.com	20000	0
15821	Ms	LOGAN	ANDERSON	12/26/1980	M	M	logan61@adventure-works.com	30000	0
16340	Ms	SEAN	MITCHELL	12/24/1980	M	M	sean43@adventure-works.com	20000	0
22576	Ms	TONY	XU	12/24/1980	M	M	tony8@adventure-works.com	20000	0
21911	Ms	JOAN	ROSS	12/23/1980	S	F	joan8@adventure-works.com	20000	0
20983	Ms	MEREDITH	VANCE	12/23/1980	S	F	meredith2@adventure-works.com	10000	0
20176	Ms	ANTONIO	ALEXANDER	12-06-1980	M	M	antonio19@adventure-works.com	20000	0
22867	Ms	MAX	RUIZ	12-06-1980	M	M	max3@adventure-works.com	20000	0
12240	Ms	CLAYTON	SHARMA	12-04-1980	M	M	clayton27@adventure-works.com	10000	0
14689	Ms	LLOYD	SAUNDERS	11/26/1980	S	F	lloyd0@adventure-works.com	20000	0
18316	Ms	JUSTIN	KUMAR	11/26/1980	M	M	justin25@adventure-works.com	30000	0
12244	Ms	AMY	HUANG	11/22/1980	M	F	amy13@adventure-works.com	20000	0
12022	Ms	JOSE	WRIGHT	11/22/1980	M	M	jose56@adventure-works.com	40000	0

34. Create a query that counts the number of customers with each occupation within a specific annual income range (e.g., $50,000 - $75,000).

```
1 •  select count(*) TotalCoustomer, occupation from
2    adventureworks.adventureworks_customers_1
3    where annualincome between '50000' and '75000'
4    group by occupation
5
```

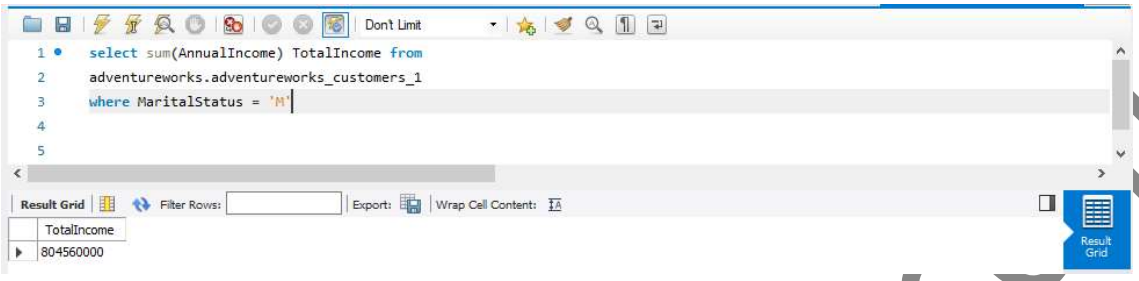
TotalCoustomer	occupation
2917	Professional
2161	Skilled Manual
968	Management

35. Write a query to find customers whose last name starts with a specific letter (e.g., 'S').

```
1 •  select * from
2    adventureworks.adventureworks_customers_1
3    where lastname like 'S%'
4
5
```

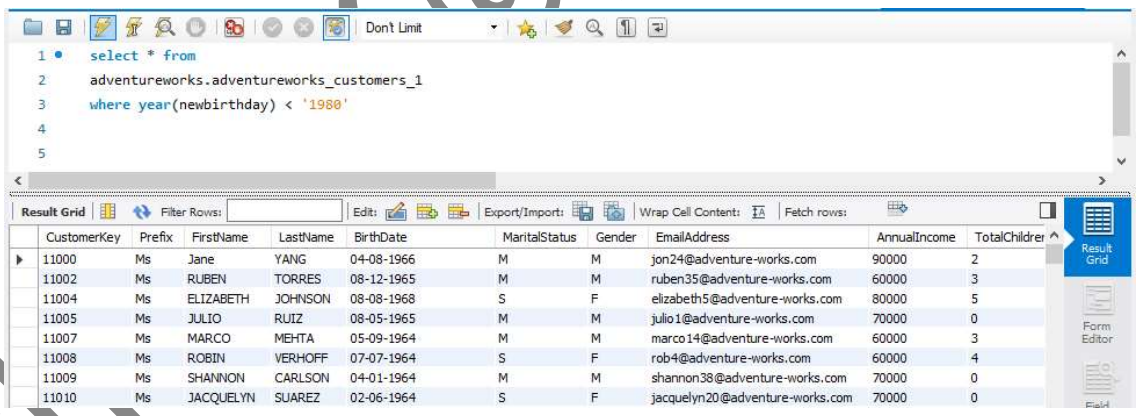
CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	TotalChildren
11010	Ms	JACQUELYN	SUAREZ	02-06-1964	S	F	jacquelyn20@adventure-works.com	70000	0
11026	Ms	HAROLD	SAI	04-03-1946	M	M	harold3@adventure-works.com	30000	2
11032	Ms	DENISE	STONE	06-11-1947	M	F	denise10@adventure-works.com	20000	4
11042	Ms	MEGAN	SANCHEZ	6	M	F	megan28@adventure-works.com	70000	0
11043	Ms	NATHAN	SIMMONS	2	M	M	nathan11@adventure-works.com	60000	0
11071	Ms	LINDA	SERRANO	6	S	F	linda31@adventure-works.com	80000	2
11101	Ms	ABBY	SAI	05-08-1965	S	F	abby4@adventure-works.com	70000	0
11104	Ms	EDGAR	SARA	03-11-1964	M	M	edgar11@adventure-works.com	70000	0
11121	Ms	ORLANDO	SUAREZ	11/18/1960	M	M	orlando19@adventure-works.com	70000	5
11150	Ms	RUSSELL	SHEN	3	M	M	russell6@adventure-works.com	40000	2
11198	Ms	BROOKE	SANDERS	11/26/1946	S	F	brooke3@adventure-works.com	70000	4
11229	Ms	ADRIAN	STEWART	12-03-1951	M	M	adrian21@adventure-works.com	70000	4
11235	Ms	ANGEL	STEWART	02-08-1952	M	M	angel24@adventure-works.com	70000	4

36. Create a query to calculate the total annual income of customers with a specific marital status (e.g., Married).



37. Write a query that updates the first name of a specific customer to 'Jane'.

38. Create a query to find customers who were born before a specific year (e.g., 1990).



39. Write a query to calculate the number of customers in each education level category.

```
1 •  select count(*) TotalCustomer, EducationLevel from
2    adventureworks.adventureworks_customers_1
3    group by (EducationLevel)
4
5
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

TotalCustomer	EducationLevel
5261	Bachelors
4966	Partial College
3241	High School
1555	Partial High School
3125	Graduate Degree

40. Create a query that counts the number of customers with each gender within a specific occupation (e.g., Manager).

```
1 •  select count(*) TotalCustomer, gender from
2    adventureworks.adventureworks_customers_1
3    where occupation = 'Professional'
4    group by gender
5
6
7
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

TotalCustomer	gender
2663	M
2728	F
33	NA

41. Write a query to find customers with a specific first name and last name combination (e.g., John Smith).

```
select * from
adventureworks.adventureworks_customers_1
where firstName = 'Jane'
and LastName = 'Yang'
```

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome
11000	Ms	Jane	YANG	04-08-1966	M	M	jon24@adventure-works.com	90000

42. Create a query to identify customers who have provided their email address.

```
select * from
adventureworks.adventureworks_customers_1
where isnull(EmailAddress) = False
```

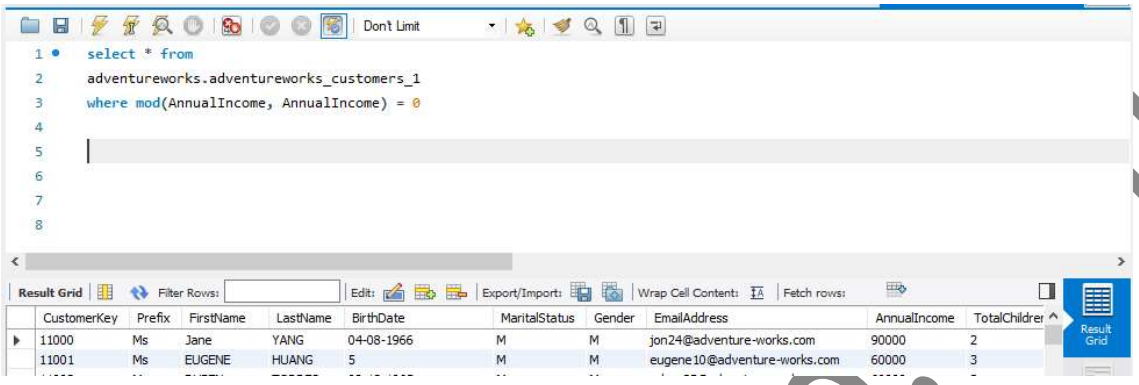
CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	TotalChildren
11000	Ms	Jane	YANG	04-08-1966	M	M	jon24@adventure-works.com	90000	2
11001	Ms	EUGENE	HUANG	5	M	M	eugene10@adventure-works.com	60000	3
11002	Ms	RUBEN	TORRES	08-12-1965	M	M	ruben35@adventure-works.com	60000	3

43. Write a query to calculate the average annual income of customers with a specific marital status and gender combination (e.g., Married and Female).

```
select sum(AnnualIncome)/ count(*) from
adventureworks.adventureworks_customers_1
where gender = 'M' and maritalstatus = 'M'
```

sum(AnnualIncome)/ count(*)
57253.99956169187

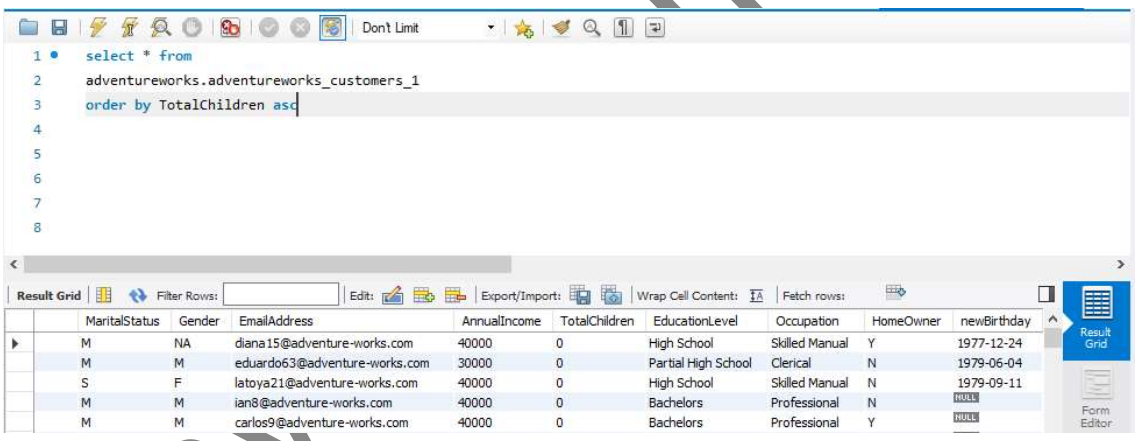
44. Create a query to find customers with an annual income that is a multiple of 10,000.



```
select * from
adventureworks.adventureworks_customers_1
where mod(AnnualIncome, AnnualIncome) = 0
```

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	TotalChildren
11000	Ms	Jane	YANG	04-08-1966	M	M	jon24@adventure-works.com	90000	2
11001	Ms	EUGENE	HUANG	5	M	M	eugene10@adventure-works.com	60000	3

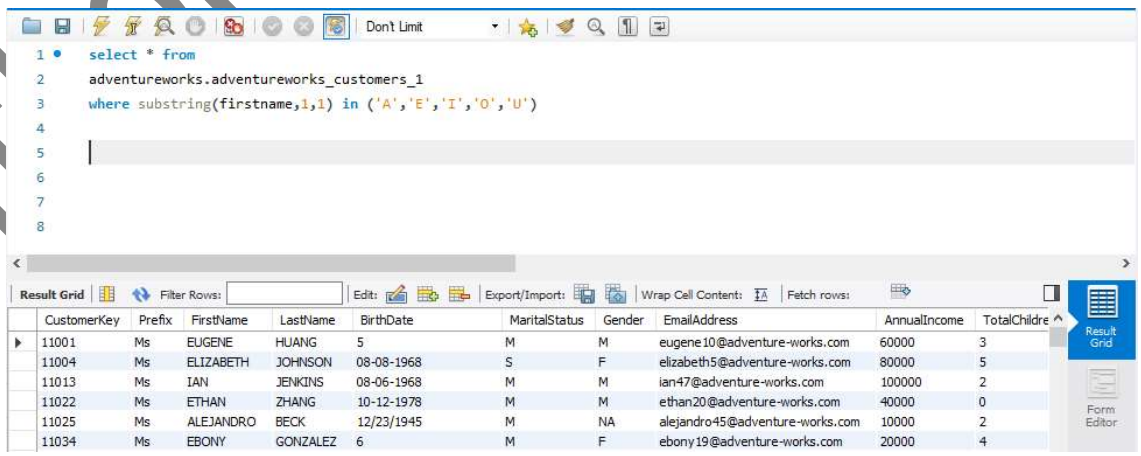
45. Write a query to sort customers by their total number of children in ascending order.



```
select * from
adventureworks.adventureworks_customers_1
order by TotalChildren asc
```

MaritalStatus	Gender	EmailAddress	AnnualIncome	TotalChildren	EducationLevel	Occupation	HomeOwner	newBirthday
M	NA	diana15@adventure-works.com	40000	0	High School	Skilled Manual	Y	1977-12-24
M	M	eduardo63@adventure-works.com	30000	0	Partial High School	Clerical	N	1979-06-04
S	F	latoya21@adventure-works.com	40000	0	High School	Skilled Manual	N	1979-09-11
M	M	ian8@adventure-works.com	40000	0	Bachelors	Professional	N	NULL
M	M	carlos9@adventure-works.com	40000	0	Bachelors	Professional	Y	NULL

46. Create a query to find customers whose first name starts with a vowel.



```
select * from
adventureworks.adventureworks_customers_1
where substring(firstname,1,1) in ('A','E','I','O','U')
```

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	TotalChildren
11001	Ms	EUGENE	HUANG	5	M	M	eugene10@adventure-works.com	60000	3
11004	Ms	ELIZABETH	JOHNSON	08-08-1968	S	F	elizabeth5@adventure-works.com	80000	5
11013	Ms	IAN	JENKINS	08-06-1968	M	M	ian47@adventure-works.com	100000	2
11022	Ms	ETHAN	ZHANG	10-12-1978	M	M	ethan20@adventure-works.com	40000	0
11025	Ms	ALEJANDRO	BECK	12/23/1945	M	NA	alejandro45@adventure-works.com	10000	2
11034	Ms	EBONY	GONZALEZ	6	M	F	ebony19@adventure-works.com	20000	4

47. Write a query to calculate the average age of customers with a specific occupation and education level combination (e.g., Engineer and Bachelor's degree).

```
select * from
adventureworks.adventureworks_customers_1
where Occupation = 'Skilled Manual'
and EducationLevel = 'Bachelors'
```

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	TotalChildren
11468	Ms	JACLYN	ANDERSEN	6	M	F	jaclyn37@adventure-works.com	40000	1
11476	Ms	ERIKA	NAVARRO	11/17/1974	M	F	erika7@adventure-works.com	40000	1
11479	Ms	DARRYL	WU	4	M	M	darryl6@adventure-works.com	40000	1
11480	Ms	COLLEEN	MA	03-11-1973	M	F	colleen16@adventure-works.com	40000	1
11481	Ms	ERICA	HU	5	M	F	erica19@adventure-works.com	40000	1

48. Create a query to find customers who were born after a specific year (e.g., 2000).

```
select * from
adventureworks.adventureworks_customers_1
where length(birthdate) > 9
and year(newbirthday) > 2000
```

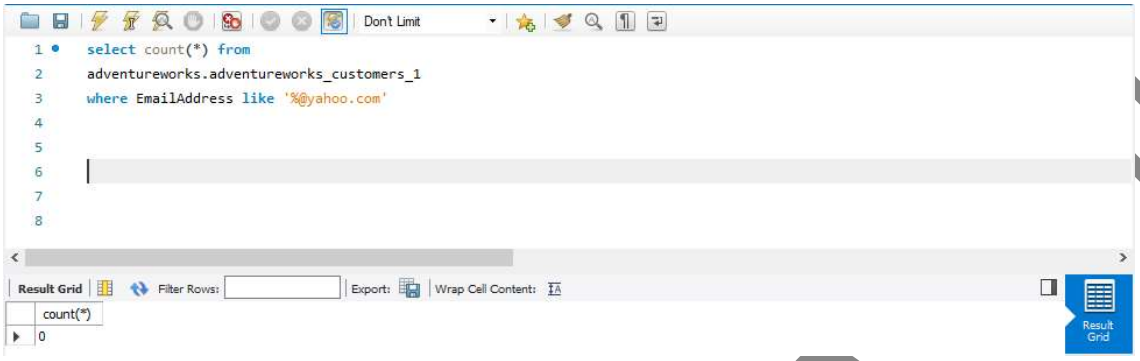
CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	TotalChildren	EducationLevel	Occup
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

49. Write a query to identify customers with a specific number of children (e.g., 3).

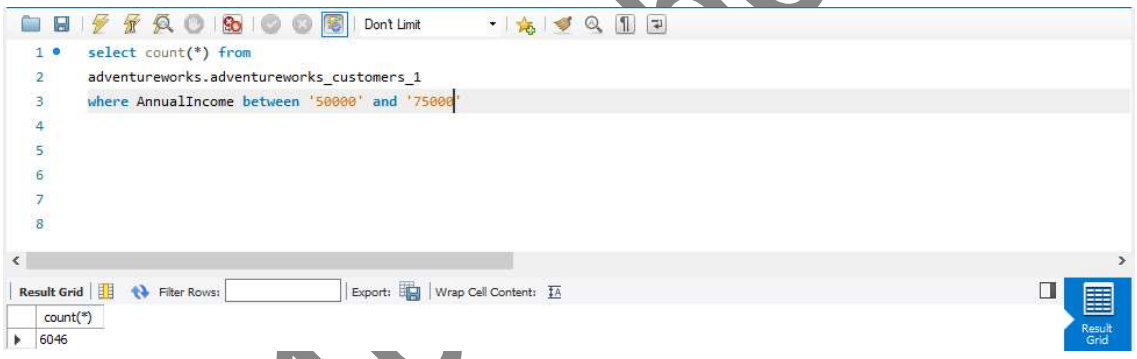
```
select * from
adventureworks.adventureworks_customers_1
where totalChildren = 3
```

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	TotalChildren
11001	Ms	EUGENE	HUANG	5	M	M	eugene10@adventure-works.com	60000	3
11002	Ms	RUBEN	TORRES	08-12-1965	M	M	ruben35@adventure-works.com	60000	3
11007	Ms	MARCO	MEHTA	05-09-1964	M	M	marco14@adventure-works.com	60000	3
11014	Ms	SYDNEY	BENNETT	05-09-1968	S	F	sydney23@adventure-works.com	100000	3
11039	Ms	MARC	MARTIN	12/17/1948	M	M	marc3@adventure-works.com	30000	3
11045	Ms	LEONARD	NARA	5	M	M	leonard18@adventure-works.com	30000	3
11046	Ms	CHRISTINE	YUAN	3	M	F	christine4@adventure-works.com	30000	3
11047	Ms	JACLYN	LU	2	M	F	jaclyn12@adventure-works.com	30000	3

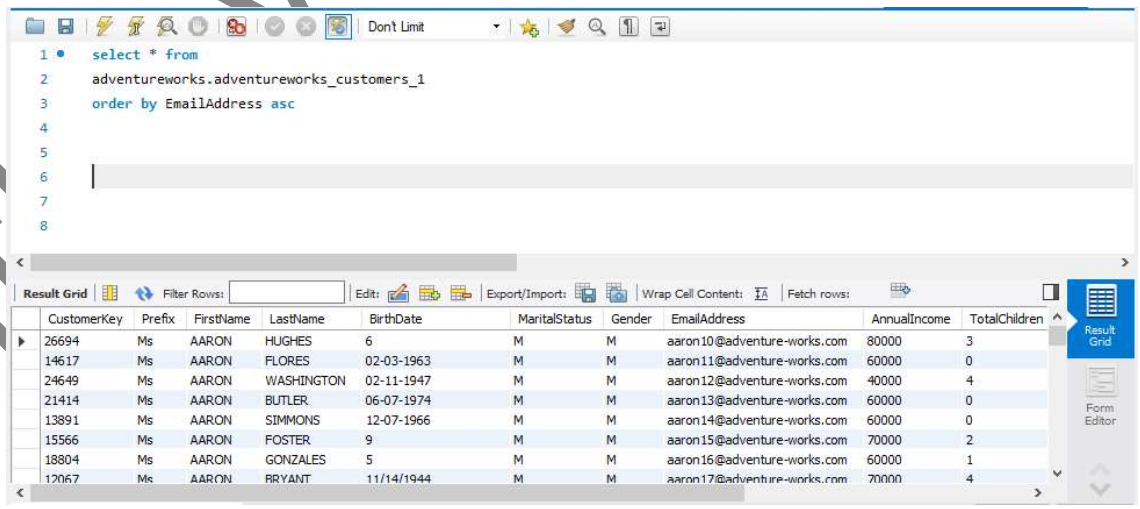
50. Create a query to count the number of customers with a specific email domain (e.g., @yahoo.com).



51. Write a query to find customers whose annual income is within a specific range (e.g., $50,000 - $75,000).



52. Create a query to sort customers by their email address in ascending order.



53. Write a query to find customers with an annual income that ends with a specific digit (e.g., 5).

```
select * from
adventureworks.adventureworks_customers_1
where
substring(cast(Annualincome as char),
length(cast(Annualincome as char)),1) = 5
```

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	TotalChildren	EducationLevel	Occup
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

54. Create a query to calculate the total number of customers with a specific marital status and gender combination (e.g., Single and Male).

```
select count(*) from
adventureworks.adventureworks_customers_1
where
MaritalStatus = 'M'
and gender = 'M'
```

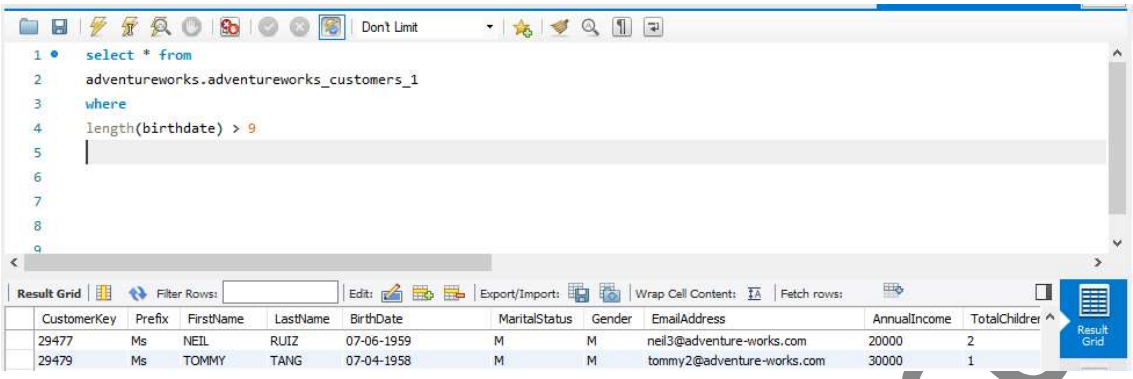
count(*)
9126

55. Write a query to find customers whose last name contains a specific substring (e.g., 'son').

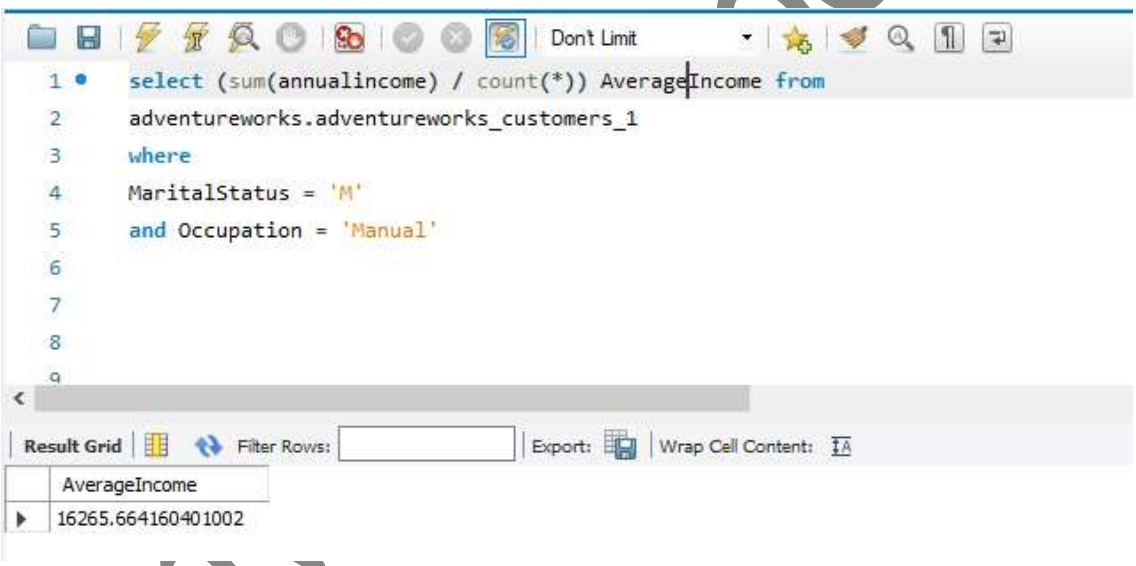
```
select * from
adventureworks.adventureworks_customers_1
where
lastname like '%son%'
```

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	TotalChildre
11004	Ms	ELIZABETH	JOHNSON	08-08-1968	S	F	elizabeth5@adventure-works.com	80000	5

56. Create a query to identify customers who have provided their birthdate.



57. Write a query to calculate the average annual income of customers with a specific marital status and occupation combination (e.g., Married and Manager).



58. Create a query to sort customers by their occupation in descending order.

```
select * from
adventureworks.adventureworks_customers_1
order by Occupation desc
```

MaritalStatus	Gender	EmailAddress	AnnualIncome	TotalChildren	EducationLevel	Occupation	HomeOwner
M	M	aidan12@adventure-works.com	80000	3	Bachelors	Skilled Manual	Y
M	M	matthew7@adventure-works.com	60000	2	Bachelors	Skilled Manual	Y
M	M	luke14@adventure-works.com	60000	2	Bachelors	Skilled Manual	Y
S	F	carly4@adventure-works.com	70000	2	Bachelors	Skilled Manual	Y
S	F	cynthia22@adventure-works.com	70000	2	Bachelors	Skilled Manual	N
S	F	kaitlyn82@adventure-works.com	70000	2	Bachelors	Skilled Manual	Y
S	F	emma34@adventure-works.com	70000	2	Bachelors	Skilled Manual	Y
M	F	lydia12@adventure-works.com	40000	1	Bachelors	Skilled Manual	Y

59. Write a query to find customers who were born on a specific date (e.g., January 1, 1980).

```
select * from
adventureworks.adventureworks_customers_1
where newbirthday = '1968-11-07'
```

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome
21056	Ms	WALTER	MUNOZ	11-07-1968	M	M	walter20@adventure-works.com	40000
25407	Ms	TONY	ANAND	11-07-1968	M	M	tony24@adventure-works.com	70000
26604	Ms	ELIZABETH	WEST	11-07-1968	S	F	elizabeth42@adventure-works.com	70000
28845	Ms	KAITLYN	SIMMONS	11-07-1968	S	F	kaitlyn82@adventure-works.com	70000

60. Create a query to count the number of customers with a specific first name and last name combination (e.g., Mary Johnson).

```
select count(*) from
adventureworks.adventureworks_customers_1
where firstname = 'Jane'
and lastname = 'Yang'
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

count(*)
1

61. Write a query to find customers with a specific email address length (e.g., 10 characters).

```
select *     from
adventureworks.adventureworks_customers_1
where length(emailaddress) = 10
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

62. Create a query to calculate the total annual income of customers with a specific education level and occupation combination (e.g., Master's degree and Engineer).

```
select sum(AnnualIncome) TotalIncome from
adventureworks.adventureworks_customers_1
where occupation = 'Professional'
and Educationlevel = 'Bachelors'
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

TotalIncome
127300000

63. Write a query to find customers whose last name ends with a specific suffix (e.g., 'Jr.').

```
select * from
adventureworks.adventureworks_customers_1
where
substring(lastname,length(lastname) -2,2) = 'JR'
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	Total
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

64. Create a query to sort customers by their annual income in ascending order.

```
select * from
adventureworks.adventureworks_customers_1
order by annualincome asc
```

rthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	TotalChildren	EducationLevel	Occupation
	M	M	dalton78@adventure-works.com	10000	3	High School	Manual
	M	M	shane19@adventure-works.com	10000	4	Partial High School	Manual
	M	M	ruben4@adventure-works.com	10000	4	Partial High School	Manual
-04-1965	S	F	lindsay19@adventure-works.com	10000	5	Partial High School	Manual
	M	M	sergio13@adventure-works.com	10000	5	Partial High School	Manual
-09-1964	M	M	roberto4@adventure-works.com	10000	5	Partial High School	Manual

65. Write a query to identify customers with an even-numbered CustomerKey who were born in a specific month (e.g., June).

```
select * from
adventureworks.adventureworks_customers_1
where mod(customerkey,2)=0
and monthname(newbirthday)= 'June'
order by annualincome asc
```

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	Tota
12612	Ms	SHANNON	TORRES	06-06-1969	M	M	shannon33@adventure-works.com	10000	2
12828	Ms	CAROL	RUBIO	06-04-1964	S	F	carol12@adventure-works.com	10000	5
14074	Ms	BARBARA	XU	06-07-1949	M	F	barbara36@adventure-works.com	10000	2
15032	Ms	MEREDITH	SUAREZ	06-11-1976	S	F	meredith43@adventure-works.com	10000	1
15040	Ms	GEORGE	LOPEZ	06-10-1977	M	M	george23@adventure-works.com	10000	1
15450	Ms	MARSHALL	BLACK	06-10-1936	M	M	marshall40@adventure-works.com	10000	1
16058	Ms	MARGARET	ZHANG	06-04-1954	M	F	margaret7@adventure-works.com	10000	2

66. Create a query to calculate the average age of customers with a specific first name and marital status combination (e.g., Mark and Single).

```
select sum(floor(datediff(now(), newbirthday)/365)) / count(*) AveAge from
adventureworks.adventureworks_customers_1
where maritalstatus = 'M'
and firstname = 'RAMON'
and length(birthdate) > 9
```

Result Grid

AveAge
58.5000

67. Write a query to find customers whose annual income contains a specific number (e.g., 7).

```
select *, cast(annualincome as char) from
adventureworks.adventureworks_customers_1
where cast(annualincome as char) like '%7%'
```

efix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	TotalChildren	EducationLeve
	ROBERT	BAKER	2	M	M	robert58@adventure-works.com	70000	4	Partial College
	CLARENCE	ZHOU	9	M	M	clarence4@adventure-works.com	70000	4	Partial College
	TERRY	NARA	10-06-1957	M	M	terry19@adventure-works.com	170000	2	Bachelors
	DIANE	MORENO	8	M	F	diane11@adventure-works.com	70000	5	High School
	JOSE	GREEN	09-04-1953	M	M	jose49@adventure-works.com	70000	4	High School
	VIRGINIA	LOPEZ	11/17/1975	M	F	virginia19@adventure-works.com	70000	0	Bachelors

68. Create a query to count the number of customers with a specific occupation and education level combination (e.g., Sales Representative and Bachelor's degree).

```
select * from
adventureworks.adventureworks_customers_1
where occupation = 'Management'
and educationlevel = 'High School'
```

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	TotalChildren
11437	Ms	ALFREDO	MORENO	12/17/1949	M	M	alfredo7@adventure-works.com	90000	4
11438	Ms	JENNY	NARA	10/14/1949	M	F	jenny39@adventure-works.com	130000	4
11439	Ms	JANET	MUNOZ	5	M	F	janet12@adventure-works.com	90000	4
11450	Ms	BRETT	MEHTA	11-12-1975	M	M	brett13@adventure-works.com	130000	4
11455	Ms	ROSS	SANZ	4	M	M	ross38@adventure-works.com	100000	0
11458	Ms	BIANCA	LIU	04-05-1973	M	F	bianca3@adventure-works.com	100000	0
11462	Ms	LAURA	LIN	1	M	F	laura14@adventure-works.com	110000	0
11463	Ms	ALISHA	BECK	03-12-1972	M	F	alisha45@adventure-works.com	110000	0

69. Write a query to find customers who were born before a specific date (e.g., January 1, 1990).

```
select * from
adventureworks.adventureworks_customers_1
where newbirthday < '1949-10-14'
```

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	TotalChildren
11018	Ms	CLARENCE	RAI	10-09-1944	M	M	clarence32@adventure-works.com	30000	2
11025	Ms	ALEJANDRO	BECK	12/23/1945	M	NA	alejandro45@adventure-works.com	10000	2
11026	Ms	HAROLD	SAI	04-03-1946	M	M	harold3@adventure-works.com	30000	2
11027	Ms	JESSIE	ZHAO	12-07-1946	M	M	jessie16@adventure-works.com	30000	2
11028	Ms	JILL	JIMENEZ	04-11-1946	M	F	jill13@adventure-works.com	30000	2
11029	Ms	JIMMY	MORENO	12/21/1946	M	M	jimmy9@adventure-works.com	30000	2

70. Create a query to sort customers by their total number of children in descending order.

```
select * from
adventureworks.adventureworks_customers_1
order by TotalChildren desc
```

nerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	TotalChildren	Educat
	Ms	LINDSAY	GOEL	02-04-1965	S	F	lindsay19@adventure-works.com	10000	5	Partial H
	Ms	SERGIO	SUBRAM	3	M	M	sergio13@adventure-works.com	10000	5	Partial H
	Ms	ROBERTO	ALVAREZ	03-09-1964	M	M	roberto4@adventure-works.com	10000	5	Partial H
	Ms	JOY	MOYER	07-06-1977	S	F	joy8@adventure-works.com	30000	5	Partial (
	Ms	ALISON	BECK	10/13/1945	M	F	alison21@adventure-works.com	80000	5	Bachelc
	Ms	JACLYN	MA	4	M	F	jadlyn17@adventure-works.com	90000	5	Partial (

71. Write a query to calculate the average annual income of customers with a specific marital status and occupation combination (e.g., Married and Sales Representative).

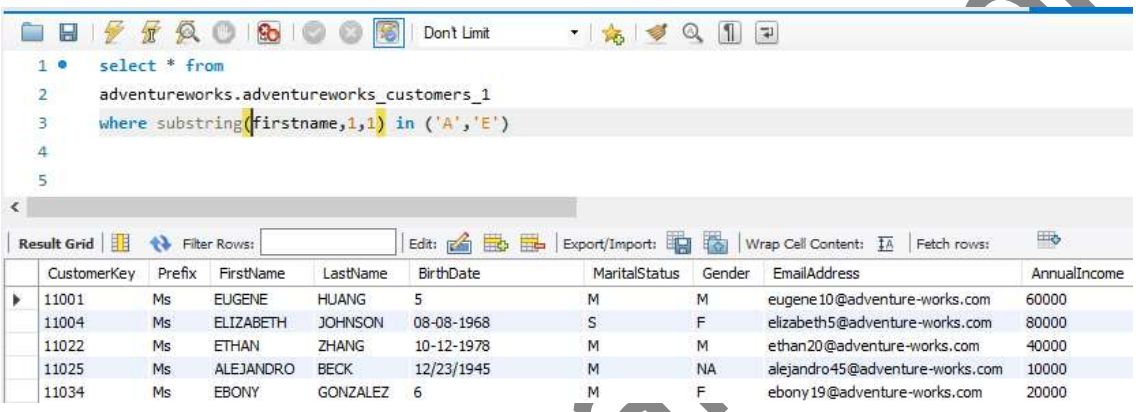
```
select sum(AnnualIncome)/ count(*) AveIncome from
adventureworks.adventureworks_customers_1
where maritalstatus = 'M'
and occupation = 'Skilled Manual'
```

AveIncome
50848.72979214781

72. Create a query to identify customers who have made a purchase within a specific date range (e.g., January 1, 2020 - March 31, 2020).

    //no purchase date in dataset

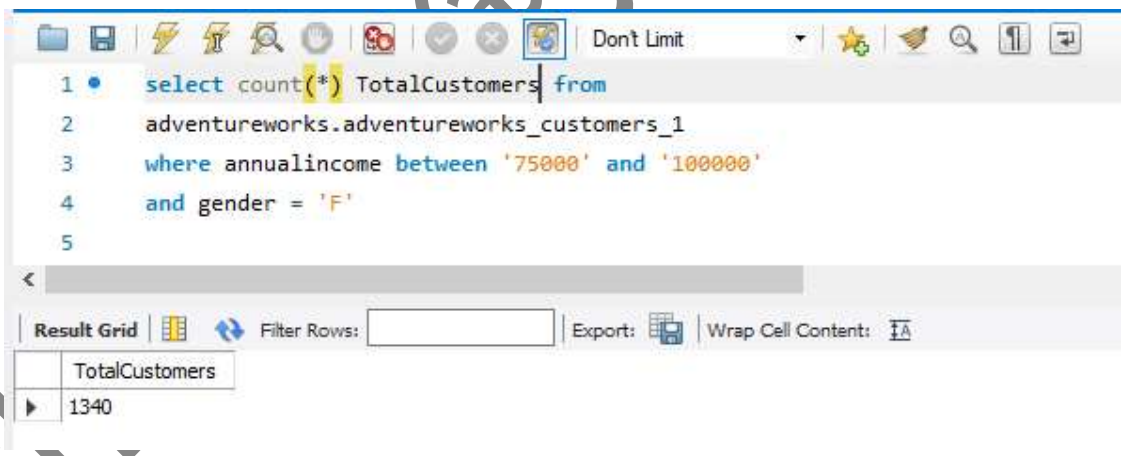
73. Write a query to find customers whose first name contains a specific number of vowels (e.g., 2).



```
select * from
adventureworks.adventureworks_customers_1
where substring(firstname,1,1) in ('A','E')
```

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome
11001	Ms	EUGENE	HUANG	5	M	M	eugene10@adventure-works.com	60000
11004	Ms	ELIZABETH	JOHNSON	08-08-1968	S	F	elizabeth5@adventure-works.com	80000
11022	Ms	ETHAN	ZHANG	10-12-1978	M	M	ethan20@adventure-works.com	40000
11025	Ms	ALEJANDRO	BECK	12/23/1945	M	NA	alejandro45@adventure-works.com	10000
11034	Ms	EBONY	GONZALEZ	6	M	F	ebony19@adventure-works.com	20000

74. Create a query to count the number of customers with a specific gender and annual income range combination (e.g., Male and $75,000 - $100,000).



```
select count(*) TotalCustomers from
adventureworks.adventureworks_customers_1
where annualincome between '75000' and '100000'
and gender = 'F'
```

TotalCustomers
1340

75. Write a query to sort customers by their education level in ascending order.

```
select * from
adventureworks.adventureworks_customers_1
order by educationlevel asc
```

FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	TotalChildren	EducationLevel	Occ
SUZANNE	WANG	7	S	F	suzanne2@adventure-works.com	60000	1	Bachelors	Profi
MATHEW	SERRANO	6	M	M	mathew12@adventure-works.com	60000	2	Bachelors	Profi
NUAN	WU	06-02-1967	M	M	nuan1@adventure-works.com	90000	3	Bachelors	Profi
RICHARD	BRADLEY	11/20/1958	M	M	richard57@adventure-works.com	70000	5	Bachelors	Profi
DIANA	DOMINGUEZ	01-07-1967	S	F	diana12@adventure-works.com	90000	2	Bachelors	Profi
NANCY	SUBRAM	10/23/1963	M	F	nancy16@adventure-works.com	60000	3	Bachelors	Profi

76. Create a query to calculate the total annual income of customers with a specific marital status and gender combination (e.g., Married and Female).

```
select * from
adventureworks.adventureworks_customers_1
where maritalstatus ='M'
and gender = 'M'
```

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress
11000	Ms	Jane	YANG	04-08-1966	M	M	jon24@adventure-works.com
11001	Ms	EUGENE	HUANG	5	M	M	eugene10@adventure-works.com
11002	Ms	RUBEN	TORRES	08-12-1965	M	M	ruben35@adventure-works.com
11005	Ms	JULIO	RUIZ	08-05-1965	M	M	julio1@adventure-works.com
11007	Ms	MARCO	MEHTA	05-09-1964	M	M	marco14@adventure-works.com
11009	Ms	SHANNON	CARLSON	04-01-1964	M	M	shannon38@adventure-works.com
11011	Ms	CURTIS	LU	11-04-1963	M	M	curtis9@adventure-works.com

77. Write a query to find customers whose last name starts with a specific letter and ends with a specific letter (e.g., starts with 'S' and ends with 'n').

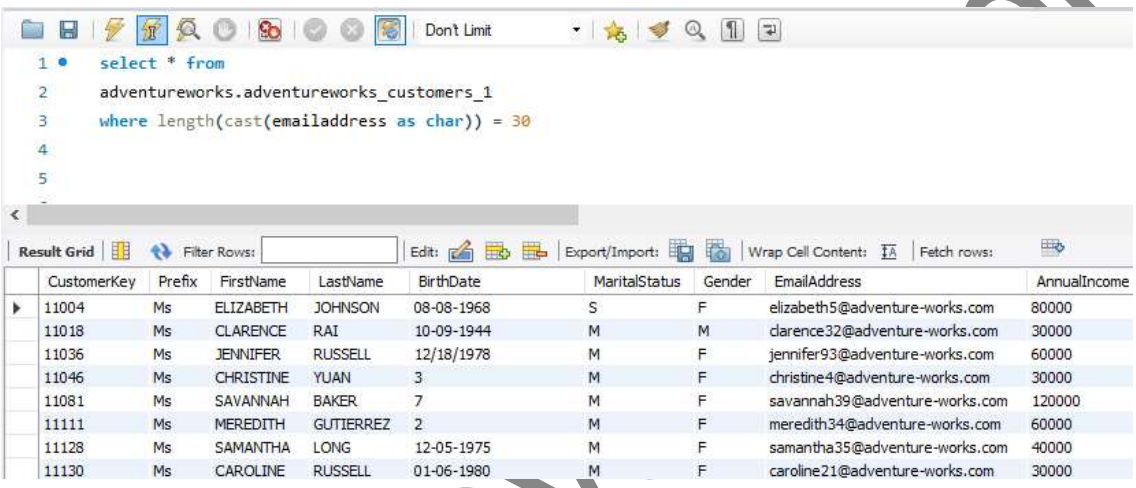
```
select * from
adventureworks.adventureworks_customers_1
where substring(lastname,1,1) = 'S'
and substring(lastname,length(lastname),1) = 'N'
```

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome
11150	Ms	RUSSELL	SHEN	3	M	M	russell6@adventure-works.com	40000
11362	Ms	DAMIEN	SHAN	11-11-1977	M	M	damien26@adventure-works.com	10000
11365	Ms	BRITTNEY	SUN	06-09-1979	S	F	brittney12@adventure-works.com	10000
11389	Ms	KARL	SHAN	4	M	M	karl11@adventure-works.com	10000
11397	Ms	LATOYA	SHAN	06-04-1969	S	F	latoya9@adventure-works.com	20000
11421	Ms	AMY	SUN	7	M	F	amy19@adventure-works.com	110000

78. Create a query to identify customers who have made purchases from a specific store location.

    // Dataset does not contain location field

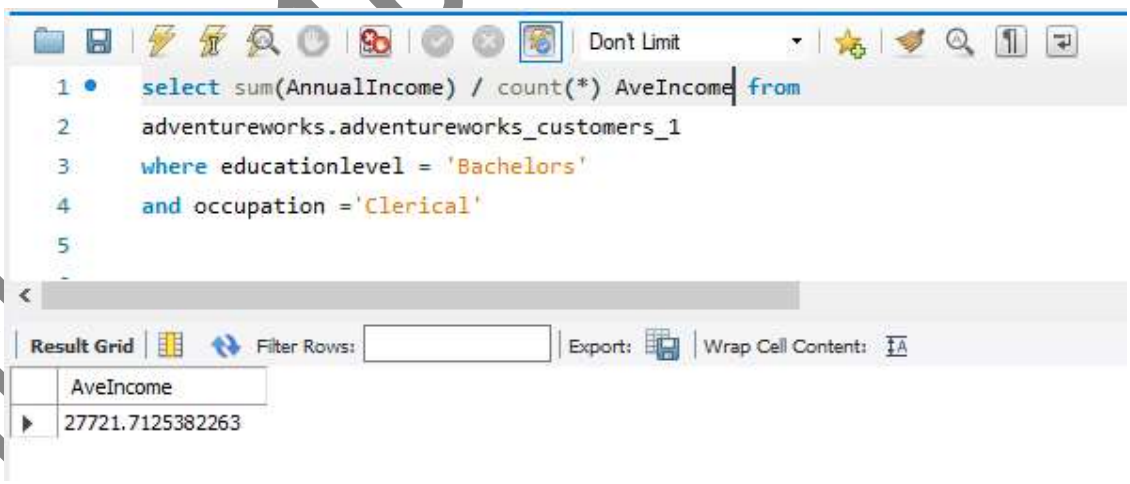
79. Write a query to find customers with a specific number of characters in their email address (e.g., 15 characters).



```
select * from
adventureworks.adventureworks_customers_1
where length(cast(emailaddress as char)) = 30
```

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome
11004	Ms	ELIZABETH	JOHNSON	08-08-1968	S	F	elizabeth5@adventure-works.com	80000
11018	Ms	CLARENCE	RAI	10-09-1944	M	M	clarence32@adventure-works.com	30000
11036	Ms	JENNIFER	RUSSELL	12/18/1978	M	F	jennifer93@adventure-works.com	60000
11046	Ms	CHRISTINE	YUAN	3	M	F	christine4@adventure-works.com	30000
11081	Ms	SAVANNAH	BAKER	7	M	F	savannah39@adventure-works.com	120000
11111	Ms	MEREDITH	GUTIERREZ	2	M	F	meredith34@adventure-works.com	60000
11128	Ms	SAMANTHA	LONG	12-05-1975	M	F	samantha35@adventure-works.com	40000
11130	Ms	CAROLINE	RUSSELL	01-06-1980	M	F	caroline21@adventure-works.com	30000

80. Create a query to calculate the average annual income of customers with a specific occupation and education level combination (e.g., Engineer and Master's degree).



```
select sum(AnnualIncome) / count(*) AveIncome from
adventureworks.adventureworks_customers_1
where educationlevel = 'Bachelors'
and occupation ='Clerical'
```

AveIncome
27721.7125382263

81. Write a query to sort customers by their annual income in descending order within each occupation category.

```
1  select * from
2  adventureworks.adventureworks_customers_1
3  order by AnnualIncome desc, occupation asc
4
5
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: | Fetch rows:

e	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	TotalChildren	EducationLevel	Occupation	HomeO
	8	M	M	dominic2@adventure-works.com	100000	5	Bachelors	Professional	Y
	10-04-1954	M	M	frank19@adventure-works.com	100000	3	High School	Professional	Y
	7	M	M	kenneth17@adventure-works.com	100000	3	High School	Professional	Y
	07-04-1954	M	F	dawn3@adventure-works.com	100000	3	High School	Professional	N
	04-01-1963	M	M	kevin25@adventure-works.com	100000	0	Partial College	Professional	Y
	3	M	M	gabriel5@adventure-works.com	100000	0	Partial College	Professional	N
	8	M	M	jack29@adventure-works.com	100000	1	Partial College	Professional	Y

82. Create a query to find customers whose first name contains a specific consonant (e.g., 't').

```
1  select * from
2  adventureworks.adventureworks_customers_1
3  where cast(firstname as char) like '%t%'
4
5
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: | Fetch rows:

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncom
11003	Ms	CHRISTY	ZHU	2	S	F	christy12@adventure-works.com	70000
11004	Ms	ELIZABETH	JOHNSON	08-08-1968	S	F	elizabeth5@adventure-works.com	80000
11011	Ms	CURTIS	LU	11-04-1963	M	M	curtis9@adventure-works.com	60000
11016	Ms	WYATT	HILL	4	M	M	wyatt32@adventure-works.com	30000
11021	Ms	DESTINY	WILSON	09-03-1978	S	F	destiny7@adventure-works.com	40000
11022	Ms	ETHAN	ZHANG	10-12-1978	M	M	ethan20@adventure-works.com	40000

83. Write a query to calculate the total number of customers with a specific marital status and annual income range combination (e.g., Single and $50,000 - $75,000).

```
1  select * from
2  adventureworks.adventureworks_customers_1
3  where annualincome between '50000' and '75000'
4  and maritalstatus = 'M'
5
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: | Fetch rows:

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualInco
11001	Ms	EUGENE	HUANG	5	M	M	eugene10@adventure-works.com	60000
11002	Ms	RUBEN	TORRES	08-12-1965	M	M	ruben35@adventure-works.com	60000
11005	Ms	JULIO	RUIZ	08-05-1965	M	M	julio1@adventure-works.com	70000
11007	Ms	MARCO	MEHTA	05-09-1964	M	M	marco14@adventure-works.com	60000
11009	Ms	SHANNON	CARLSON	04-01-1964	M	M	shannon38@adventure-works.com	70000
11011	Ms	CURTIS	LU	11-04-1963	M	M	curtis9@adventure-works.com	60000
11024	Ms	RUSSELL	XIE	9	M	M	russell7@adventure-works.com	60000
11036	Ms	JENNIFER	RUSSELL	12/18/1978	M	F	jennifer93@adventure-works.com	60000

84. Create a query to find customers whose last name contains a specific number of syllables (e.g., 2 syllables).

```
select * from
adventureworks.adventureworks_customers_1
where cast(lastname as char) like '%TAY%'
or cast(lastname as char) like '%RES%'
```

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome
28969	Ms	EDUARDO	FLORES	05-08-1948	M	M	eduardo57@adventure-works.com	30000
28985	Ms	ANDREW	TAYLOR	02-03-1942	M	M	andrew18@adventure-works.com	50000
29012	Ms	JEREMIAH	TAYLOR	01-03-1950	M	M	jeremiah2@adventure-works.com	40000
29243	Ms	JARED	TORRES	12/20/1962	M	M	jared7@adventure-works.com	110000
29276	Ms	SYDNEY	FLORES	8	M	F	sydney34@adventure-works.com	70000
29394	Ms	RAQUEL	TORRES	11-05-1962	S	F	raquel8@adventure-works.com	30000
29415	Ms	OSCAR	FLORES	9	M	M	oscar20@adventure-works.com	30000

85. Write a query to sort customers by their birthdate in ascending order within each occupation category.

```
select * from
adventureworks.adventureworks_customers_1
where length(birthdate) > 9
order by occupation asc, newbirthday asc
```

MaritalStatus	Gender	EmailAddress	AnnualIncome	TotalChildren	EducationLevel	Occupation	HomeOwner	newBirthday
S	F	emma1@adventure-works.com	30000	1	Partial College	Clerical	Y	1913-09-10
S	F	jadyn7@adventure-works.com	10000	3	Bachelors	Clerical	N	1919-04-08
M	M	jack6@adventure-works.com	20000	3	Partial High School	Clerical	N	1919-06-06
M	M	nathaniel8@adventure-works.com	20000	3	Partial High School	Clerical	N	1921-03-10
M	F	jennifer4@adventure-works.com	10000	4	Partial High School	Clerical	N	1921-11-10
M	M	dakota8@adventure-works.com	10000	3	Bachelors	Clerical	Y	1922-02-04
M	F	elizabeth36@adventure-works.com	10000	3	Bachelors	Clerical	N	1922-10-11
M	M	matthew25@adventure-works.com	40000	1	Graduate Degree	Clerical	Y	1923-08-03

86. Create a query to calculate the average annual income of customers with a specific marital status and education level combination (e.g., Married and Bachelor's degree).

```
select sum(AnnualIncome)/ count(*) AveIncome from
adventureworks.adventureworks_customers_1
where maritalstatus = 'M'
and Educationlevel = 'Bachelors'
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

AveIncome
63885.24191587649

87. Write a query to find customers whose email address contains a specific special character (e.g., '@').

```
select * from
adventureworks.adventureworks_customers_1
where cast(emailaddress as char) like '%@%'
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: | Fetch rows:

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome
11000	Ms	Jane	YANG	04-08-1966	M	M	jon24@adventure-works.com	90000
11001	Ms	EUGENE	HUANG	5	M	M	eugene10@adventure-works.com	60000
11002	Ms	RUBEN	TORRES	08-12-1965	M	M	ruben35@adventure-works.com	60000
11003	Ms	CHRISTY	ZHU	2	S	F	christy12@adventure-works.com	70000
11004	Ms	ELIZABETH	JOHNSON	08-08-1968	S	F	elizabeth5@adventure-works.com	80000
11005	Ms	JULIO	RUIZ	08-05-1965	M	M	julio1@adventure-works.com	70000
11007	Ms	MARCO	MEHTA	05-09-1964	M	M	marco14@adventure-works.com	60000
11008	Ms	ROBIN	VERHOFF	07-07-1964	S	F	rob4@adventure-works.com	60000

88. Create a query to identify customers who have made purchases from multiple store locations.

// Store location note in dataset

89. Write a query to calculate the total annual income of customers with a specific occupation and gender combination (e.g., Manager and Male).

```
select sum(AnnualIncome) from
adventureworks.adventureworks_customers_1
where occupation = 'Management'
and gender = 'M'
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

sum(AnnualIncome)
143930000

90. Create a query to find customers whose first name starts with a specific letter and ends with a specific letter (e.g., starts with 'A' and ends with 'a').

```
select * from
adventureworks.adventureworks_customers_1
where substring(cast(firstname as char),1,1) = 'A'
and substring(cast(firstname as char),length(firstname),1) = 'A'
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualInc
11041	Ms	AMANDA	CARTER	10/16/1977	M	F	amanda53@adventure-works.com	60000
11053	Ms	ANA	PRICE	8	M	F	ana0@adventure-works.com	60000
11063	Ms	ANGELA	MURPHY	04-07-1975	S	F	angela41@adventure-works.com	40000
11082	Ms	ANGELA	BUTLER	08-04-1966	S	NA	angela17@adventure-works.com	130000
11083	Ms	ALYSSA	COX	3	M	F	alyssa37@adventure-works.com	130000
11131	Ms	AMANDA	RIVERA	03-12-1980	M	F	amanda7@adventure-works.com	30000
11133	Ms	ANGELA	GRIFFIN	09-08-1980	S	F	angela23@adventure-works.com	30000

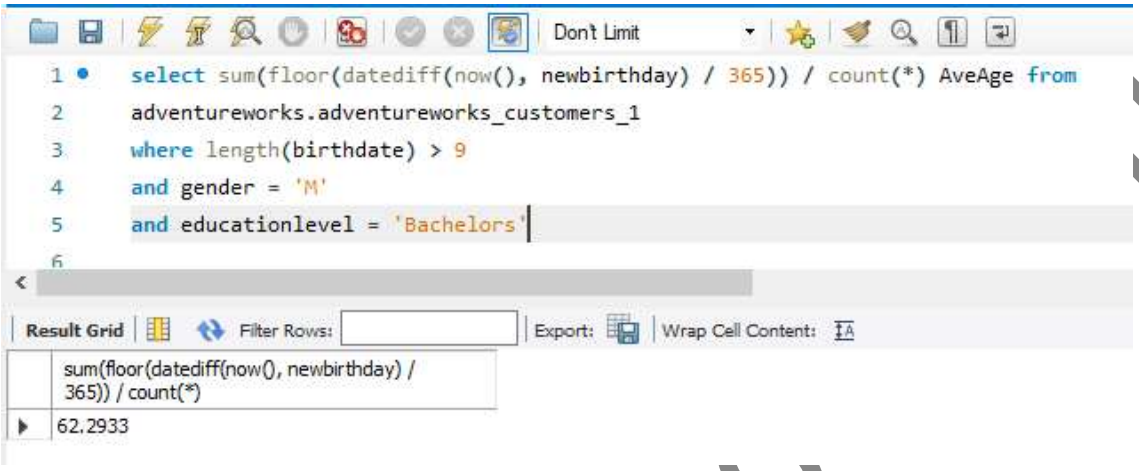
91. Write a query to sort customers by their total number of children in descending order within each marital status category.

```
select * from
adventureworks.adventureworks_customers_1
order by maritalstatus asc,
totalchildren desc
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: | Fetch rows:

efix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	TotalChildren	EducationLevel
	LUCAS	ANDERSON	07-05-1960	M	M	lucas23@adventure-works.com	80000	5	Partial College
	KEVIN	LOPEZ	10-08-1963	M	M	kevin58@adventure-works.com	110000	5	Bachelors
	XAVIER	HAYES	10/26/1969	M	M	xavier63@adventure-works.com	70000	5	Graduate Degree
	ANTONIO	WOOD	5	M	M	antonio2@adventure-works.com	90000	5	Partial College
	ROGER	ZHENG	09-02-1960	M	M	roger23@adventure-works.com	70000	5	Partial College
	WILLIE	WANG	09-02-1959	M	M	willie2@adventure-works.com	100000	5	Bachelors
	ALVIN	NATH	11-07-1965	M	M	alvin39@adventure-works.com	80000	5	Bachelors
	RICHARD	BRADLEY	11/20/1958	M	M	richard57@adventure-works.com	70000	5	Bachelors

92. Create a query to calculate the average age of customers with a specific education level and gender combination (e.g., Master's degree and Female).

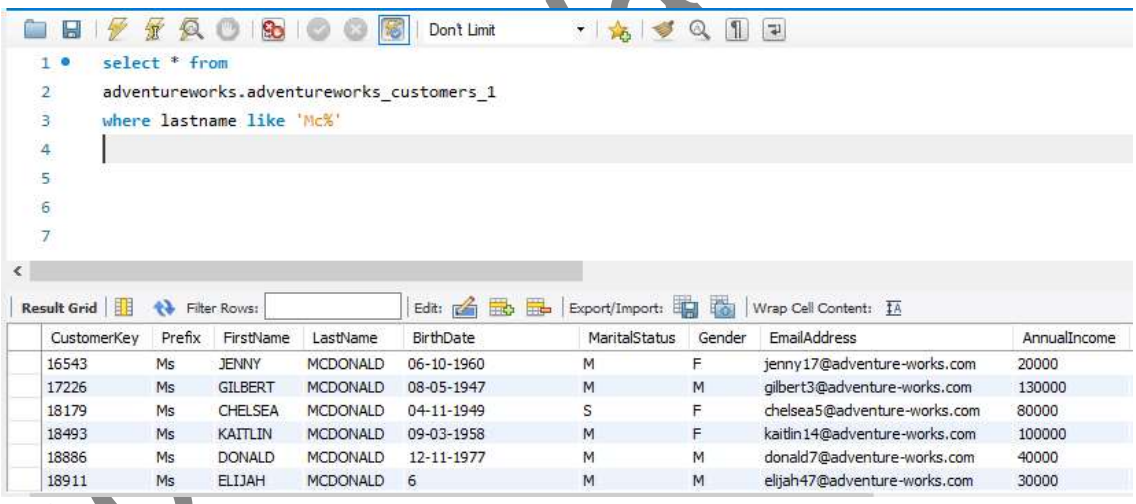


```
select sum(floor(datediff(now(), newbirthday) / 365)) / count(*) AveAge from
adventureworks.adventureworks_customers_1
where length(birthdate) > 9
and gender = 'M'
and educationlevel = 'Bachelors'
```

Result Grid

sum(floor(datediff(now(), newbirthday) / 365)) / count(*)
62.2933

93. Write a query to find customers whose last name starts with a specific prefix (e.g., 'Mc').



```
select * from
adventureworks.adventureworks_customers_1
where lastname like 'Mc%'
```

Result Grid

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome
16543	Ms	JENNY	MCDONALD	06-10-1960	M	F	jenny17@adventure-works.com	20000
17226	Ms	GILBERT	MCDONALD	08-05-1947	M	M	gilbert3@adventure-works.com	130000
18179	Ms	CHELSEA	MCDONALD	04-11-1949	S	F	chelsea5@adventure-works.com	80000
18493	Ms	KAITLIN	MCDONALD	09-03-1958	M	F	kaitlin14@adventure-works.com	100000
18886	Ms	DONALD	MCDONALD	12-11-1977	M	M	donald7@adventure-works.com	40000
18911	Ms	ELIJAH	MCDONALD	6	M	M	elijah47@adventure-works.com	30000

94. Create a query to identify customers who have made purchases of a specific product category (e.g., electronics).

// product category no available in dataset

95. Write a query to calculate the total annual income of customers with a specific marital status and education level combination (e.g., Single and Bachelor's degree).

```
select sum(AnnualIncome) from
adventureworks.adventureworks_customers_1
where educationlevel = 'Bachelors'
and maritalstatus = 'S'
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

sum(AnnualIncome)
76030000

96. Create a query to find customers whose email address domain is a specific number of characters long (e.g., 10 characters).

```
select * from
adventureworks.adventureworks_customers_1
where
length(substring_index(emailaddress, "@",-1)) =19
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: | Fetch rows:

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIn
11000	Ms	Jane	YANG	04-08-1966	M	M	jon24@adventure-works.com	90000
11001	Ms	EUGENE	HUANG	5	M	M	eugene10@adventure-works.com	60000
11002	Ms	RUBEN	TORRES	08-12-1965	M	M	ruben35@adventure-works.com	60000
11003	Ms	CHRISTY	ZHU	2	S	F	christy12@adventure-works.com	70000
11004	Ms	ELIZABETH	JOHNSON	08-08-1968	S	F	elizabeth5@adventure-works.com	80000
11005	Ms	JULIO	RUIZ	08-05-1965	M	M	julio1@adventure-works.com	70000
11007	Ms	MARCO	MEHTA	05-09-1964	M	M	marco14@adventure-works.com	60000

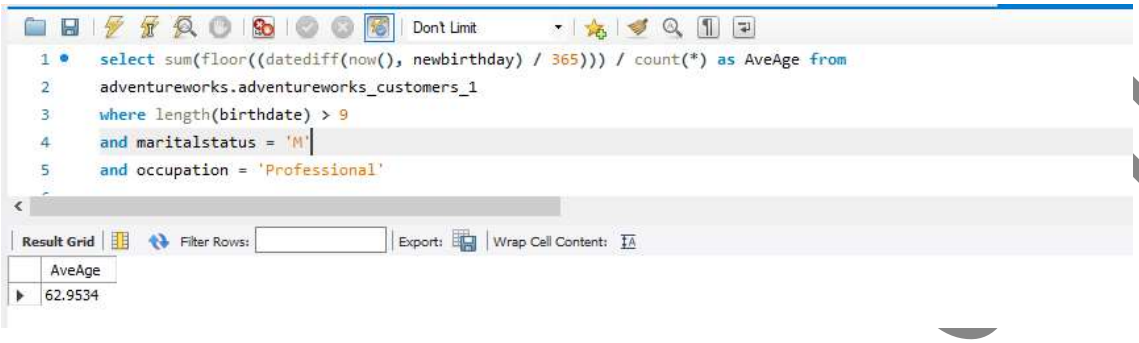
97. Write a query to sort customers by their annual income in ascending order within each education level category.

```
select * from
adventureworks.adventureworks_customers_1
order by educationlevel asc, annualincome asc
```

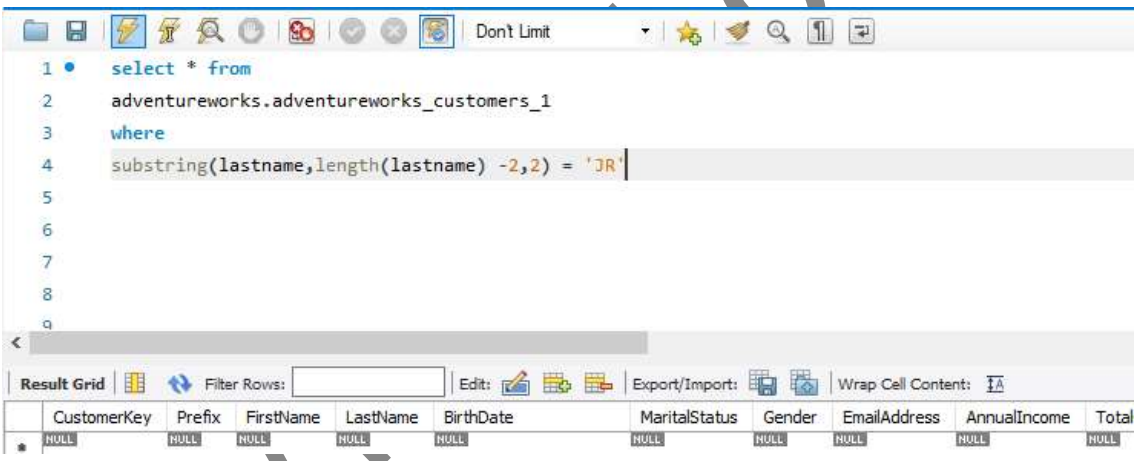
Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: | Fetch rows:

ate	MaritalStatus	Gender	EmailAddress	AnnualIncome	TotalChildren	EducationLevel	Occupation	HomeOwner	newBirth
	S	F	catherine5@adventure-works.com	130000	1	Graduate Deg...	Management	N	NULL
	S	F	olivia16@adventure-works.com	130000	1	Graduate Deg...	Management	Y	NULL
1935	M	M	robert25@adventure-works.com	130000	2	Graduate Deg...	Management	N	1935-06-
	M	M	alex3@adventure-works.com	130000	1	Graduate Deg...	Management	Y	NULL
1969	S	F	brandy11@adventure-works.com	130000	1	Graduate Deg...	Management	N	1969-10-
1965	M	M	kyle31@adventure-works.com	130000	1	Graduate Deg...	Management	Y	1965-11-
1965	M	M	andrew19@adventure-works.com	130000	1	Graduate Deg...	Management	Y	1965-10-
1934	M	M	angel4@adventure-works.com	130000	1	Graduate Deg...	Management	N	1934-09-

98. Create a query to calculate the average age of customers with a specific occupation and marital status combination (e.g., Engineer and Married).



99. Write a query to find customers whose first name ends with a specific suffix (e.g., 'Jr.').



100. Create a query to identify customers who have made purchases on a specific day of the week (e.g., Sunday).

//purchase date not available in dataset