

SQL Assignment Questionnaire

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

```

3 •   SELECT * FROM `adventureworks_customers` (2)
4 WHERE FirstName = 'JOHN';
5

```

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

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress
12064	Ms	JOHN	WHITE	1944-10-09	S	M	john50@adventure-works.com
12903	Ms	JOHN	SANDSTONE	1969-10-02	S	F	john27@adventure-works.com
13238	Ms	JOHN	WILLIAMS	1948-10-26	M	M	john39@adventure-works.com
14436	Ms	JOHN	MARTIN	1965-09-04	M	M	john52@adventure-works.com
14657	Ms	JOHN	THOMAS	1958-11-11	M	M	john48@adventure-works.com
15431	Ms	JOHN	JACKSON	1978-03-17	M	M	john49@adventure-works.com

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

```

3 •   SELECT * FROM `adventureworks_customers` (2)
4 ORDER BY LastName ASC;
5

```

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

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress
28247	Ms	JONATHAN	ADAMS	1956-09-22	S	M	jonathan46@adventure-works.com
28678	Ms	BEN	ADAMS	1966-05-03	S	M	ben2@adventure-works.com
29285	Ms	THOMAS	ADAMS	1949-01-14	S	M	thomas51@adventure-works.com
29170	Ms	ALEXANDRA	ADAMS	1958-10-16	S	F	alexandra57@adventure-works.com
► 28360	Ms	ISAIAH	ADAMS	1965-07-03	M	M	isaiah38@adventure-works.com
29422	Ms	IAN	ADAMS	1976-08-19	S	M	ian30@adventure-works.com
28866	Ms	AARON	ADAMS	1974-02-05	S	M	aaron48@adventure-works.com

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

```

1 •   SELECT * FROM new_schema.adventureworks_customers
2 where CustomerKey = 12345;
3 •   UPDATE adventureworks_customers
4 SET EmailAddress = 'newemail@example.com'
5 WHERE CustomerKey = 12345;

```

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

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	annualir
12345	MS.	ALISON	RAJE	6/27/1975	S	F	newemail@example.com	\$80,000	80000

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

```

1
2 •   SELECT AVG(annualincome_clean) AS averageincome_clean
3     FROM adventureworks_customers;
4
5

```

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

	averageincome_clean
▶	57269.1206

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

```

1 •   SELECT * FROM new_schema.adventureworks_customers
2   where BirthDate like '%1980';
3

```

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

	CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	annualincome_clean
▶	11049	MS.	CAROL	RAI	7/18/1980	S	F	carol8@adventure-works.com	\$40,000	40000
	11053	MS.	ANA	PRICE	8/20/1980	M	F	ana0@adventure-works.com	\$60,000	60000
	11130	MS.	CAROLINE	RUSSELL	1/6/1980	M	F	caroline21@adventure-works.com	\$30,000	30000
	11131	MS.	AMANDA	RIVERA	3/12/1980	M	F	amanda7@adventure-works.com	\$30,000	30000
	11132	MS.	MELISSA	RICHARDSON	10/26/1980	S	F	melissa31@adventure-works.com	\$30,000	30000
	11133	MS.	ANGELA	GRIFFIN	9/8/1980	S	F	angela23@adventure-works.com	\$30,000	30000
	11356	MR.	TERRENCE	CARSON	5/27/1980	S	M	terrence15@adventure-works.com	\$10,000	10000

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

```

1 •   SELECT * FROM new_schema.adventureworks_customers
2   where MaritalStatus = 'S';
3

```

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

	CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome
▶	11001	MR.	EUGENE	HUANG	5/14/1965	S	M	eugene10@adventure-works.com	\$60,000
	11003	MS.	CHRISTY	ZHU	2/15/1968	S	F	christy12@adventure-works.com	\$70,000
	11004	MRS.	ELIZABETH	JOHNSON	8/8/1968	S	F	elizabeth5@adventure-works.com	\$80,000
	11005	MR.	JULIO	RUIZ	8/5/1965	S	M	julio1@adventure-works.com	\$70,000
	11008	MRS.	ROBIN	VERHOFF	7/7/1964	S	F	rob4@adventure-works.com	\$60,000
	11009	MR.	SHANNON	CARLSON	4/1/1964	S	M	shannon38@adventure-works.com	\$70,000
	11010	MS.	JACQUELYN	SUAREZ	2/6/1964	S	F	jacquelyn20@adventure-works.com	\$70,000
	11014	MRS.	SYDNEY	BENNETT	5/9/1968	S	F	sydney23@adventure-works.com	\$100,000
	11015	MS.	CHLOE	YOUNG	2/27/1979	S	F	chloe23@adventure-works.com	\$30,000
	11017	MRS.	SHANNON	WANG	6/26/1944	S	F	shannon1@adventure-works.com	\$20,000

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

```

1 •   SELECT * FROM new_schema.adventureworks_customers
2   where Prefix = 'MR.';
3 •   Update adventureworks_customers
4     set MaritalStatus = 'M'
5   where Prefix = 'MR.';
```

Result Grid

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome
11000	MR.	JON	YANG	4/8/1966	M	M	jon24@adventure-works.com	\$90,000
11001	MR.	EUGENE	HUANG	5/14/1965	M	M	eugene10@adventure-works.com	\$60,000
11002	MR.	RUBEN	TORRES	8/12/1965	M	M	ruben35@adventure-works.com	\$60,000
11005	MR.	JULIO	RUIZ	8/5/1965	M	M	julio1@adventure-works.com	\$70,000
11007	MR.	MARCO	MEHTA	5/9/1964	M	M	marco14@adventure-works.com	\$60,000
11009	MR.	SHANNON	CARLSON	4/1/1964	M	M	shannon38@adventure-works.com	\$70,000
11011	MR.	CURTIS	LU	11/4/1963	M	M	curtis9@adventure-works.com	\$60,000
11013	MR.	IAN	JENKINS	8/6/1968	M	M	ian47@adventure-works.com	\$100,000

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

```

1 •   SELECT count(*) FROM new_schema.adventureworks_customers
2   where EducationLevel = 'Bachelors';
3
4
```

Result Grid

count(*)
5261

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

```

1
2 •   SELECT occupation, COUNT(*) AS customer_count
3   FROM adventureworks_customers
4   GROUP BY occupation;
```

Result Grid

occupation	customer_count
Professional	5424
Management	3011
Skilled Manual	4501
Clerical	2859
Manual	2353

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

The screenshot shows a database interface with a toolbar at the top. Below the toolbar, a code editor displays the following SQL query:

```
1 •   SELECT * FROM new_schema.adventureworks_customers;
2 •   SELECT FirstName, LastName, BirthDate
3     FROM adventureworks_customers
4    ORDER BY BirthDate ASC
5    LIMIT 1;
```

Below the code editor is a "Result Grid" table with three columns: FirstName, LastName, and BirthDate. The table contains one row of data:

	FirstName	LastName	BirthDate
▶	HANNAH	POWELL	1/1/1939

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

The screenshot shows a database interface with a toolbar at the top. Below the toolbar, a code editor displays the following SQL query:

```
1 •   SELECT * FROM new_schema.adventureworks_customers;
2 •   SELECT FirstName, LastName, TotalChildren
3     FROM adventureworks_customers
4    WHERE TotalChildren >= 2;
```

Below the code editor is a "Result Grid" table with three columns: FirstName, LastName, and TotalChildren. The table contains 14 rows of data:

	FirstName	LastName	TotalChildren
▶	JON	YANG	2
	EUGENE	HUANG	3
	RUBEN	TORRES	3
	ELIZABETH	JOHNSON	5
	MARCO	MEHTA	3
	ROBIN	VERHOFF	4
	CURTIS	LU	4
	LAUREN	WALKER	2
	IAN	JENKINS	2
	SYDNEY	BENNETT	3
	SHANNON	WANG	4
	CLARENCE	RAI	2
	ALEJANDRO	BECK	2

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

The screenshot shows a database interface with a toolbar at the top. Below the toolbar, a code editor displays the following SQL query:

```
1 •   SELECT * FROM new_schema.adventureworks_customers;
2 •   select sum(annualincome_clean) as male_income
3     from adventureworks_customers
4    where Gender = 'M';
```

Below the code editor is a "Result Grid" table with one column: male_income. The table contains one row of data:

male_income
522500000

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

```

1 •  SELECT * FROM new_schema.adventureworks_customers;
2 •  SELECT * FROM adventureworks_customers
3 WHERE annualincome_clean Between 50000 AND 100000;
4 ✘ Or
5   SELECT * FROM adventureworks_customers
6 WHERE annualincome_clean >= 50000 AND annualincome_clean <= 100000;

```

The screenshot shows a SQL query in the query editor. The query selects all columns from the 'adventureworks_customers' table where the 'annualincome_clean' column is between 50000 and 100000. There is also an alternative 'OR' clause using the '>=' and '<=' operators. Below the query is a 'Result Grid' showing the results of the query. The grid has columns: CustomerKey, Prefix, FirstName, LastName, BirthDate, MaritalStatus, Gender, EmailAddress, AnnualIncome, and annualincome_clean. The data includes rows for customers like JON YANG, EUGENE HUANG, RUBEN TORRES, etc., with their respective details and annual incomes.

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	annualincome_clean
11000	MR.	JON	YANG	4/8/1966	M	M	jon24@adventure-works.com	\$90,000	90000
11001	MR.	EUGENE	HUANG	5/14/1965	M	M	eugene10@adventure-works.com	\$60,000	60000
11002	MR.	RUBEN	TORRES	8/12/1965	M	M	ruben35@adventure-works.com	\$60,000	60000
11003	MS.	CHRISTY	ZHU	2/15/1968	S	F	christy12@adventure-works.com	\$70,000	70000
11004	MRS.	ELIZABETH	JOHNSON	8/8/1968	S	F	elizabeth5@adventure-works.com	\$80,000	80000
11005	MR.	JULIO	RUIZ	8/5/1965	M	M	julio1@adventure-works.com	\$70,000	70000
11007	MR.	MARCO	MEHTA	5/9/1964	M	M	marco14@adventure-works.com	\$60,000	60000

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

```

1
2 •  SELECT LEFT(firstname, 3) AS short_firstname, FirstName
3   FROM adventureworks_customers;

```

The screenshot shows the results of the query in a 'Result Grid'. The grid has two columns: 'short_firstname' and 'FirstName'. The data shows the first three characters of each customer's first name: JON, EUG, RUB, CHR, and ELI, corresponding to the customers JON, EUGENE, RUBEN, CHRISTY, and ELIZABETH respectively.

short_firstname	FirstName
JON	JON
EUG	EUGENE
RUB	RUBEN
CHR	CHRISTY
ELI	ELIZABETH

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

```

1 •  SELECT * FROM new_schema.adventureworks_customers;
2
3 •  select Prefix, FirstName, EducationLevel, Occupation from adventureworks_customers
4   where Prefix = 'MR.' AND EducationLevel = 'High School' and Occupation = 'Skilled Manual';

```

The screenshot shows the results of the query in a 'Result Grid'. The grid has four columns: 'Prefix', 'FirstName', 'EducationLevel', and 'Occupation'. The data shows customers with the prefix 'MR.' and the specified education level and occupation: LUKE, JORDAN, JAIME, LEONARD, JEREMY, ALAN, and DANIEL, all of whom have 'High School' as their education level and 'Skilled Manual' as their occupation.

Prefix	FirstName	EducationLevel	Occupation
MR.	LUKE	High School	Skilled Manual
MR.	JORDAN	High School	Skilled Manual
MR.	JAIME	High School	Skilled Manual
MR.	LEONARD	High School	Skilled Manual
MR.	JEREMY	High School	Skilled Manual
MR.	ALAN	High School	Skilled Manual
MR.	DANIEL	High School	Skilled Manual

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

```

1 •   SELECT * FROM new_schema.adventureworks_customers;
2
3 •   SELECT Gender, COUNT(*) AS customer_count
4     FROM adventureworks_customers
5   GROUP BY Gender;

```

Gender	customer_count
M	9126
F	8892
NA	130

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

```

2 •   SELECT CustomerKey, Prefix, FirstName, LastName, MaritalStatus FROM `adventureworks_customers` (2)
3   WHERE CustomerKey > 10000;
4 •   UPDATE `adventureworks_customers` (2)
5     SET Prefix = 'Ms'
6   WHERE CustomerKey > 10000;

```

CustomerKey	Prefix	FirstName	LastName	MaritalStatus
11000	Ms	JON	YANG	M
11001	Ms	EUGENE	HUANG	S
11002	Ms	RUBEN	TORRES	M
11003	Ms	CHRISTY	ZHU	S
11004	Ms	ELIZABETH	JOHNSON	S
11005	Ms	JULIO	RUIZ	S
11007	Ms	MARCO	MEHTA	M
11008	Ms	ROBIN	VERHOFF	S
11009	Ms	SHANNON	CARLSON	S

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

```

23 •  UPDATE `adventureworks_customers` (2)
24    SET BirthDate = STR_TO_DATE(BirthDate, '%m/%d/%Y');
25 •  SELECT FirstName, LastName, annualincome_clean, AVG(DATEDIFF(CURRENT_DATE, COALESCE(BirthDate, CURRENT_DATE)) / 365) AS average_age
26    FROM `adventureworks_customers` (2) WHERE annualincome_clean >= 75000 AND annualincome_clean <= 100000
27  GROUP BY FirstName, LastName, annualincome_clean;

```

FirstName	LastName	annualincome_clean	average_age
JON	YANG	90000.00	58.12880000
ELIZABETH	JOHNSON	80000.00	55.79180000
LAUREN	WALKER	100000.00	56.34790000
IAN	JENKINS	100000.00	55.79730000
SYDNEY	BENNETT	100000.00	56.04110000
MARC	DIAZ	80000.00	70.08490000
ASHLEE	ANDERSEN	80000.00	70.15620000
JON	ZHOU	80000.00	70.19730000
TODD	GAO	80000.00	70.24660000
TIFFANY	LIANG	80000.00	68.67670000
CAROLYN	NAVARRO	80000.00	68.68220000

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

```

28
29 •   SELECT FirstName,LastName,BirthDate FROM `adventureworks_customers` (2)
30     WHERE DAYNAME(BirthDate) = 'Monday';
31
32

```

	FirstName	LastName	BirthDate
▶	CURTIS	LU	1963-11-04
	SHANNON	WANG	1944-06-26
	CLARENCE	RAI	1944-10-09
	JENNIFER	RUSSELL	1978-12-18
	JESSE	MURPHY	1977-08-01
	MEGAN	SANCHEZ	1977-06-13
	JACLYN	LU	1950-02-27
	DEANNA	MUNOZ	1952-03-10
	CARL	ANDERSEN	1953-10-12
	ANGELA	MURPHY	1975-04-07
	RYAN	BROWN	1957-12-23

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

```

31
32 •   SELECT FirstName,LastName FROM `adventureworks_customers` (2)
33     WHERE EmailAddress IS NULL;
34
35

```

	FirstName	LastName
--	-----------	----------

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

```

34
35 •   SELECT CustomerKey,FirstName,LastName FROM `adventureworks_customers` (2)
36     WHERE CustomerKey %2 != 0;
37
38

```

	CustomerKey	FirstName	LastName
▶	11001	EUGENE	HUANG
	11003	CHRISTY	ZHU
	11005	JULIO	RUIZ
	11007	MARCO	MEHTA
	11009	SHANNON	CARLSON
	11011	CURTIS	LU
	11013	IAN	JENKINS
	11015	CHLOE	YOUNG
	11017	SHANNON	WANG
	11019	LUKE	LAL
	11021	DESTINY	WILSON

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

```
38 •   SELECT Occupation, AVG(annualIncome_clean) AS average_annual_income
39     FROM `adventureworks_customers` (2)
40     WHERE Occupation IN ('Professional', 'Management', 'Clerical', 'Manual', 'Skilled Manual')
41     GROUP BY Occupation;
42
```

Result Grid	
Occupation	average_annual_income
Professional	74166.666667
Management	92218.532049
Skilled Manual	51732.948234
Clerical	30696.047569
Manual	16472.588185

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

```
43 •   SELECT FirstName, LastName, annualincome_clean FROM `adventureworks_customers` (2)
44     WHERE annualIncome_clean = (SELECT MAX(annualIncome_clean) FROM `adventureworks_customers` (2));
45
46
```

Result Grid		
FirstName	LastName	annualincome_clean
DAMIEN	CHANDER	170000.00
DEVIN	MARTIN	170000.00
ALEXIS	COLEMAN	170000.00
SHANNON	LIU	170000.00
HUNTER	GRIFFIN	170000.00
DUSTIN	DENG	170000.00
ANDRE	LOPEZ	170000.00
ARTURO	ZHENG	170000.00

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

```
46 •   SELECT FirstName, LastName, annualincome_clean FROM `adventureworks_customers` (2)
47     ORDER BY annualincome_clean DESC;
48
49
```

Result Grid		
FirstName	LastName	annualincome_clean
MELODY	GOMEZ	170000.00
CONNOR	BUTLER	170000.00
DYLAN	THOMPSON	170000.00
DALTON	ROBERTS	170000.00
IAN	WATSON	170000.00
TRISHA	WU	170000.00
JADA	SANCHEZ	170000.00
DEVIN	KELLY	170000.00
TERRY	NARA	170000.00
AARON	COLLINS	170000.00
LUIS	ROBERTS	170000.00
ROSS	MADAN	170000.00
KATIE	HOLT	170000.00

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

```
49 •  SELECT FirstName,LastName,EmailAddress FROM `adventureworks_customers` (2)
50      WHERE EmailAddress LIKE '%@adventure-works.com';
51
52
```

	FirstName	LastName	EmailAddress
▶	JON	YANG	jon24@adventure-works.com
	EUGENE	HUANG	eugene10@adventure-works.com
	RUBEN	TORRES	ruben35@adventure-works.com
	CHRISTY	ZHU	christy12@adventure-works.com
	ELIZABETH	JOHNSON	elizabeth5@adventure-works.com
	JULIO	RUIZ	julio1@adventure-works.com

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

```
52 •  SELECT COUNT(*) AS total_customers
53      FROM `adventureworks_customers` (2);
54
55
```

	total_customers
▶	18148

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

```
55 •  SELECT Gender, MaritalStatus, COUNT(*) AS count_per_marital_status
56      FROM `adventureworks_customers` (2)
57      WHERE Gender = 'M'
58      GROUP BY Gender, MaritalStatus;
59
```

	Gender	MaritalStatus	count_per_marital_status
▶	M	M	5141
	M	S	3985

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

```
60 •   Select FirstName from `adventureworks_customers` (2)
61     where FirstName like '%a%';
62
63
```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
	FirstName			
▶	ELIZABETH			
	MARCO			
	SHANNON			
	JACQUELYN			
	LAUREN			
	IAN			
	WYATT			
	SHANNON			
	CLARENCE			
	JORDAN			
	ETHAN			
	ALEJANDRO			
	HAROLD			

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

```
63 •   SELECT CustomerKey,FirstName,LastName FROM `adventureworks_customers` (2)
64     WHERE CustomerKey %2 = 0;
65
66
```

Result Grid			Filter Rows:	Export:	Wrap Cell Content:	Fetch rows:
	CustomerKey	FirstName	LastName			
▶	11000	JON	YANG			
	11002	RUBEN	TORRES			
	11004	ELIZABETH	JOHNSON			
	11008	ROBIN	VERHOFF			
	11010	JACQUELYN	SUAREZ			
	11012	LAUREN	WALKER			
	11014	SYDNEY	BENNETT			

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

```
66 •   SELECT FirstName,LastName,BirthDate FROM `adventureworks_customers` (2)
67     WHERE MONTH(BirthDate) = 5;
68
69
```

Result Grid			Filter Rows:	Export:	Wrap Cell Content:	Fetch rows:
	FirstName	LastName	BirthDate			
▶	EUGENE	HUANG	1965-05-14			
	MARCO	MEHTA	1964-05-09			
	SYDNEY	BENNETT	1968-05-09			
	ADAM	FLORES	1949-05-24			
	LEONARD	NARA	1950-05-19			
	CHERYL	DIAZ	1967-05-06			

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

```

69 •   SELECT FirstName,LastName,Occupation,EducationLevel FROM `adventureworks_customers` (2)
70     WHERE Occupation IN ('Clerical','Manual')
71     AND EducationLevel IN ('Bachelors', 'Graduate Degree');
72

```

	FirstName	LastName	Occupation	EducationLevel
▶	DEANNA	RAMOS	Manual	Graduate Degree
	EMILY	MILLER	Clerical	Graduate Degree
	NICOLE	BROWN	Manual	Manual
	CARLA	RAMAN	Manual	Bachelors
	SHAUN	RAJI	Clerical	Graduate Degree
	JEROME	ROMERO	Manual	Bachelors
	FRANK	NAVARRO	Clerical	Graduate Degree
	DENNIS	SHE	Clerical	Graduate Degree
	MELODY	MUNOZ	Clerical	Graduate Degree
	RANDY	ZENG	Clerical	Graduate Degree
	MARSHALL	WANG	Clerical	Graduate Degree
	ARTHUR	CARLSON	Manual	Bachelors
	CARA	ZHOU	Clerical	Graduate Degree

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

```

73 •   Select FirstName,LastName,annualincome_clean from `adventureworks_customers` (2)
74     where annualincome_clean =(select min(annualincome_clean) from`adventureworks_customers` (2));
75
76

```

	FirstName	LastName	annualincome_clean
▶	ALEJANDRO	BECK	10000.00
	BETHANY	YUAN	10000.00
	WENDY	DOMINGUEZ	10000.00
	DIANA	HERNANDEZ	10000.00
	SHAUN	CARSON	10000.00
	LARRY	TOWNSEND	10000.00
	DEANNA	RAMOS	10000.00
	NICOLE	BROWN	10000.00
	CARLA	RAMAN	10000.00

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

```
76 •   Select FirstName,LastName,BirthDate from `adventureworks_customers` (2)
77     Order by BirthDate desc;
78
79
```

Result Grid			Filter Rows:	Export:	Wrap Cell Content:	Fetch rows:
	FirstName	LastName	BirthDate			
▶	ROGER	RAI	1980-12-26			
	LOGAN	ANDERSON	1980-12-26			
	SEAN	MITCHELL	1980-12-24			
	TONY	XU	1980-12-24			
	MEREDITH	VANCE	1980-12-23			
	JOAN	ROSS	1980-12-23			
	ANTONIO	ALEXANDER	1980-12-06			
	MAX	RUIZ	1980-12-06			
	CLAYTON	SHARMA	1980-12-04			
	LLOYD	SAUNDERS	1980-11-26			
	JUSTIN	KUMAR	1980-11-26			
	THEODORE	ROMERO	1980-11-22			
	JOSE	WRIGHT	1980-11-22			
	CHLOE	RODRIGUEZ	1980-11-22			
	AMY	HUANG	1980-11-22			

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).

```
79 •   Select Occupation, count(*) as occupation_count from `adventureworks_customers` (2)
80   where annualincome_clean between 50000 and 75000 Group by Occupation;
81
82
```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:	Fetch rows:
	Occupation	occupation_count			
▶	Professional	2917			
	Skilled Manual	2161			
	Management	968			

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

```
82 •   Select FirstName,LastName from `adventureworks_customers` (2)
83   Where LastName like 'S%';
84
85
```

Result Grid			Filter Rows:	Export:	Wrap Cell Content:	Fetch rows:
	FirstName	LastName				
▶	JACQUELYN	SUAREZ				
	HAROLD	SAI				
	DENISE	STONE				
	MEGAN	SANCHEZ				
	NATHAN	SIMMONS				
	LINDA	SERRANO				
	ABBY	SAI				
	EDGAR	SARA				
	ORLANDO	SUAREZ				

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

```
85 •   SELECT MaritalStatus, SUM(annualincome_clean) AS total_annual_income
86     FROM `adventureworks_customers` (2)
87     WHERE MaritalStatus = 'M';
88
```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
	MaritalStatus	total_annual_income		
▶	M	592100000.00		

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

```
89 •   Select CustomerKey,FirstName,LastName from `adventureworks_customers` (2) where FirstName = 'JON'
90 ✎ UPDATE `adventureworks_customers` (2) SET FirstName='JANE' where CustomerKey= 11000;
91 •   Select CustomerKey,FirstName,LastName from `adventureworks_customers` (2)
92
```

Result Grid			Filter Rows:	Export:	Wrap Cell Content:	Fetch rows:
	CustomerKey	FirstName	LastName			
▶	11000	JANE	YANG			
	11001	EUGENE	HUANG			
	11002	RUBEN	TORRES			
	11003	CHRISTY	ZHU			

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

```
93 ✎ Select FirstName, LastName, BirthDate from `adventureworks_customers` (2)
94   where year(BirthDate) < 1990;
95
96
```

Result Grid				Filter Rows:	Export:	Wrap Cell Content:	Fetch rows:
	FirstName	LastName	BirthDate				
▶	JANE	YANG	1966-04-08				
	EUGENE	HUANG	1965-05-14				
	RUBEN	TORRES	1965-08-12				
	CHRISTY	ZHU	1968-02-15				
	ELIZABETH	JOHNSON	1968-08-08				
	JULIO	RUIZ	1965-08-05				
	MARCO	MEHTA	1964-05-09				

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

```

96 •  SELECT EducationLevel, COUNT(*) AS Customer_count
97      FROM `adventureworks_customers (2)` GROUP BY EducationLevel;
98
99
100

```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
	EducationLevel	Customer_count		
▶	Bachelors	5261		
	Partial College	4966		
	High School	3241		
	Partial High School	1555		
	Graduate Degree	3125		

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

```

99 •  select Occupation,Gender, count(*) as Occupation_Count
100     from `adventureworks_customers (2)` group by Occupation, Gender;
101
102

```

Result Grid			Filter Rows:	Export:	Wrap Cell Content:
	Occupation	Gender	Occupation_Count		
▶	Professional	M	2663		
	Professional	F	2728		
	Management	F	1441		
	Management	M	1548		
	Skilled Manual	F	2225		
	Skilled Manual	M	2250		
	Clerical	M	1441		
	Clerical	NA	30		
	Clerical	F	1388		
	Management	NA	22		
	Professional	NA	33		
	Manual	F	1110		
	Manual	M	1224		

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

```

102 •  Select * from `adventureworks_customers (2)`
103     where FirstName = 'MARCO' AND LastName= 'MEHTA';
104
105

```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:						
	CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	annualincome_clean
▶	11007	Ms	MARCO	MEHTA	1964-05-09	M	M	marco14@adventure-works.com	\$60,000	60000.00

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

```
105 •  SELECT * FROM `adventureworks_customers` (2)
106      WHERE EmailAddress IS NOT NULL;
107
108
```

	CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress
▶	11000	Ms	JANE	YANG	1966-04-08	M	M	jon24@adventure-works.com
	11001	Ms	EUGENE	HUANG	1965-05-14	S	M	eugene10@adventure-works.com
	11002	Ms	RUBEN	TORRES	1965-08-12	M	M	ruben35@adventure-works.com
	11003	Ms	CHRISTY	ZHU	1968-02-15	S	F	christy12@adventure-works.com
	11004	Ms	ELIZABETH	JOHNSON	1968-08-08	S	F	elizabeth5@adventure-works.com

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).

```
108 •  SELECT Gender,MaritalStatus, avg(annualincome_clean) AS AVG_INCOME
109      FROM `adventureworks_customers` (2) WHERE Gender = 'F' AND MaritalStatus = 'M';
110
111
```

	Gender	MaritalStatus	AVG_INCOME
▶	F	M	60362.334563

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

```
111 •  SELECT FirstName,LastName,annualincome_clean FROM `adventureworks_customers` (2)
112      WHERE annualincome_clean % 10000 = 0;
113
114
```

	FirstName	LastName	annualincome_clean
▶	JANE	YANG	90000.00
	EUGENE	HUANG	60000.00
	RUBEN	TORRES	60000.00
	CHRISTY	ZHU	70000.00
	ELIZABETH	JOHNSON	80000.00
	JULIO	RUIZ	70000.00

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

```
114 •   SELECT FirstName,LastName,TotalChildren FROM `adventureworks_customers` (2)
115     ORDER BY TotalChildren ASC;
116
117
```

	FirstName	LastName	TotalChildren
▶	CARSON	POWELL	0
	WAYNE	CHANDER	0
	RILEY	COX	0
	GIORGIO	VERONESI	0
	TINA	MADAN	0
	RUBEN	GOMEZ	0

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

```
117 •   SELECT * FROM `adventureworks_customers` (2)
118     WHERE FirstName LIKE 'A%' OR FirstName LIKE 'E%' OR FirstName LIKE 'I%' OR FirstName LIKE 'O%' OR FirstName LIKE 'U%';
119
120
```

	CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	annualincome_clean	TotalChildren
▶	11001	Ms	EUGENE	HUANG	1965-05-14	S	M	eugene10@adventure-works.com	\$60,000	60000.00	3
	11004	Ms	ELIZABETH	JOHNSON	1968-08-08	S	F	elizabeth5@adventure-works.com	\$80,000	80000.00	5
	11013	Ms	IAN	JENKINS	1968-08-06	M	M	ian47@adventure-works.com	\$100,000	100000.00	2
	11022	Ms	ETHAN	ZHANG	1978-10-12	M	M	ethan20@adventure-works.com	\$40,000	40000.00	0
	11025	Ms	ALEJANDRO	BECK	1945-12-23	M	NA	alejandro45@adventure-works.com	\$10,000	10000.00	2
	11034	Ms	EBONY	GONZALEZ	1947-06-19	M	F	ebony19@adventure-works.com	\$20,000	20000.00	4
	11041	Ms	AMANDA	CARTER	1977-10-16	M	F	amanda53@adventure-works.com	\$60,000	60000.00	0

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).

```
143 •   select Occupation,EducationLevel, AVG(Age) AS Avg_Age
144     FROM `adventureworks_customers` (2)
145     WHERE Occupation = 'Professional' AND EducationLevel = 'Bachelors'
146     GROUP BY Occupation,EducationLevel;
```

	Occupation	EducationLevel	Avg_Age
▶	Professional	Bachelors	57.1896

48. Create a query to find customers who were born after a specific year (e.g., 1972).

```
148 •   SELECT * FROM `adventureworks_customers` (2)
149     WHERE YEAR(BirthDate) > '1972';
150
151
```

	CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender
▶	11015	Ms	CHLOE	YOUNG	1979-02-27	S	F
	11016	Ms	WYATT	HILL	1979-04-28	M	M
	11019	Ms	LUKE	LAL	1978-03-07	S	M
	11020	Ms	JORDAN	KING	1978-09-20	S	M
	11021	Ms	DESTINY	WILSON	1978-09-03	S	F
	11022	Ms	ETHAN	ZHANG	1978-10-12	M	M
	11023	Ms	SETH	EDWARDS	1978-10-11	M	M

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

```
151 •   SELECT FirstName, LastName, MaritalStatus, Gender, TotalChildren
152     FROM `adventureworks_customers` (2) WHERE TotalChildren = 3;
153
154
```

	FirstName	LastName	MaritalStatus	Gender	TotalChildren
▶	EUGENE	HUANG	S	M	3
	RUBEN	TORRES	M	M	3
	MARCO	MEHTA	M	M	3
	SYDNEY	BENNETT	S	F	3
	MARC	MARTIN	M	M	3
	LEONARD	NARA	S	M	3

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

```
154 •   Select count(*)as customer_count from `adventureworks_customers` (2)
155     where EmailAddress like '%@adventure-works.com';
156
157
```

	customer_count
▶	18148

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

```
159 •   SELECT FirstName,LastName,annualincome_clean FROM `adventureworks_customers` (2)
160     WHERE annualincome_clean >= 50000 AND annualincome_clean <= 75000;
161
```

Result Grid						
	FirstName	LastName	annualincome_clean	Export:	Wrap Cell Content:	Fetch rows:
▶	EUGENE	HUANG	60000.00			
	RUBEN	TORRES	60000.00			
	CHRISTY	ZHU	70000.00			
	JULIO	RUIZ	70000.00			
	MARCO	MEHTA	60000.00			
	ROBIN	VERHOFF	60000.00			
	SHANNON	CARLSON	70000.00			

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

```
L62 •   SELECT FirstName,LastName,EmailAddress FROM `adventureworks_customers` (2)
L63     order by EmailAddress asc;
L64
```

Result Grid						
	FirstName	LastName	EmailAddress	Export:	Wrap Cell Content:	Fetch rows:
	AARON	HUGHES	aaron10@adventure-works.com			
	AARON	FLORES	aaron11@adventure-works.com			
	AARON	WASHINGTON	aaron12@adventure-works.com			
	AARON	BUTLER	aaron13@adventure-works.com			
	AARON	SIMMONS	aaron14@adventure-works.com			

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

```
166 •   SELECT FirstName,LastName,annualincome_clean FROM `adventureworks_customers` (2)
167     Where annualincome_clean like '15%';
168
```

Result Grid						
	FirstName	LastName	annualincome_clean	Export:	Wrap Cell Content:	Fetch rows:
	ROBIN	ALVAREZ	150000.00			
	DANIELLE	REED	150000.00			
	SETH	PHILLIPS	150000.00			
	KYLE	SCOTT	150000.00			
	GRANT	TANG	150000.00			
	ANDREW	WEDGE	150000.00			

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

```
170 • select Gender,MaritalStatus, count(*) as Total_Customer from `adventureworks_customers` (2)
171     where Gender='F' and MaritalStatus = 'S' group by Gender,MaritalStatus;
172
```

Result Grid		
Gender	MaritalStatus	Total_Customer
F	S	4283

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

```
174 • Select * from `adventureworks_customers` (2)
175     where LastName like '%son%';
176
```

Result Grid						
CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender
11004	Ms	ELIZABETH	JOHNSON	1968-08-08	S	F
11009	Ms	SHANNON	CARLSON	1964-04-01	S	M
11021	Ms	DESTINY	WILSON	1978-09-03	S	F
11051	Ms	DANIEL	JOHNSON	1951-08-04	S	M
11065	Ms	JESSICA	HENDERSON	1973-10-09	M	F

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

```
178 • SELECT * FROM `adventureworks_customers` (2)
179     WHERE BirthDate IS NOT NULL;
180
```

Result Grid							
CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress
11000	Ms	JANE	YANG	1966-04-08	M	M	jon24@adventure-works.com
11001	Ms	EUGENE	HUANG	1965-05-14	S	M	eugene10@adventure-works.com
11002	Ms	RUBEN	TORRES	1965-08-12	M	M	ruben35@adventure-works.com
11003	Ms	CHRISTY	ZHU	1968-02-15	S	F	christy12@adventure-works.com
11004	Ms	ELIZABETH	JOHNSON	1968-08-08	S	F	elizabeth5@adventure-works.com
11005	Ms	JULIO	RUIZ	1965-08-05	S	M	julio1@adventure-works.com
11007	Ms	MARCO	MEHTA	1964-05-09	M	M	marco14@adventure-works.com
11008	Ms	ROBIN	VERHOFF	1964-07-07	S	F	rob4@adventure-works.com

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).

```
181 •   SELECT FirstName, LastName, MaritalStatus, Occupation, avg(annualincome_clean)
182     FROM `adventureworks_customers` (2)
183     where MaritalStatus ='M' and Occupation = 'Management'
184     group by FirstName, LastName, MaritalStatus, Occupation;
```

FirstName	LastName	MaritalStatus	Occupation	avg(annualincome_clean)
LAUREN	WALKER	M	Management	100000.000000
IAN	JENKINS	M	Management	100000.000000
CARL	ANDERSEN	M	Management	70000.000000
DAMIEN	CHANDER	M	Management	170000.000000
SAVANNAH	BAKER	M	Management	120000.000000
ALYSSA	COX	M	Management	130000.000000
AIMEE	HE	M	Management	100000.000000

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

```
187 •   select FirstName, LastName, Occupation from `adventureworks_customers` (2)
188     order by Occupation desc;
189
```

FirstName	LastName	Occupation
MARIO	SHARMA	Skilled Manual
ALEXANDRA	GRAY	Skilled Manual
ETHAN	HARRIS	Skilled Manual
RYAN	HENDERSON	Skilled Manual
MARCUS	RODRIGUEZ	Skilled Manual
DALTON	STEWART	Skilled Manual
LUKE	KING	Skilled Manual

59. Write a query to find customers who were born on a specific date (e.g., January 4, 1980).

```
188
189 •   SELECT * FROM `adventureworks_customers` (2)
190     WHERE DATE(BirthDate) = '1980-04-01';
191
```

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender
12376	Ms	HOLLY	PEREZ	1980-04-01	S	F
13148	Ms	TYLER	ANDERSON	1980-04-01	M	M

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

```
124
125 •   select * from `adventureworks_customers` (2)
126     where FirstName='GABRIELLA' and LastName = 'HOWARD';
127
```

Result Grid							
CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress
20437	Ms	GABRIELLA	HOWARD	1975-10-12	S	F	gabriella9@adventure-works.com

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

```
194 •   SELECT * FROM `adventureworks_customers` (2)
195     WHERE LENGTH(EmailAddress) = 22;
196
197
```

Result Grid							
CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress
14974	Ms	K.	SARAVAN	1979-07-02	S	M	k0@adventure-works.com
26299	Ms	Y.	YONG	1972-07-27	S	M	y0@adventure-works.com

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).

```
197 •   select EducationLevel,Occupation, sum(annualincome_clean) as Total_income
198     from `adventureworks_customers` (2)
199     where EducationLevel ='Graduate Degree' and Occupation = 'Clerical';
200
```

Result Grid		
EducationLevel	Occupation	Total_income
Graduate Degree	Clerical	13990000.00

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

```
201 • select * from `adventureworks_customers` (2)
202   where LastName like '%DER';
203
204
```

Result Grid							
CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress
11080	Ms	DAMIEN	CHANDER	1959-07-17	M	M	damien32@adventure-works.com
11165	Ms	JOCELYN	ALEXANDER	1973-07-18	M	F	jocelyn18@adventure-works.com
11248	Ms	TRISTAN	ALEXANDER	1955-03-26	M	M	tristan19@adventure-works.com
11446	Ms	BETHANY	CHANDER	1974-08-12	S	F	bethany19@adventure-works.com
11492	Ms	TERRENCE	CHANDER	1971-11-19	S	M	terrence16@adventure-works.com
11721	Ms	JENNIFER	ALEXANDER	1960-01-22	M	F	jennifer92@adventure-works.com
11738	Ms	ELIJAH	ALEXANDER	1959-10-09	M	M	elijah20@adventure-works.com

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

```
204 • select FirstName,LastName,annualincome_clean
205   from `adventureworks_customers` (2)
206 Order by annualincome_clean asc;
207
```

Result Grid		
FirstName	LastName	annualincome_clean
RUBEN	CARLSON	10000.00
JANELLE	KAPOOR	10000.00
TREVOR	COLEMAN	10000.00
CHARLES	BELL	10000.00
COLE	COX	10000.00
WYATT	PARKER	10000.00
MARVIN	DOMINGUEZ	10000.00
JORGE	ZHENG	10000.00
KELVIN	CAI	10000.00

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

```
208 • Select * from `adventureworks_customers` (2)
209   where CustomerKey % 2 =0 and month(BirthDate) = 6;
210
211
```

Result Grid							
CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	
11032	Ms	DENISE	STONE	1947-06-11	M	F	
11034	Ms	EBONY	GONZALEZ	1947-06-19	M	F	
11042	Ms	MEGAN	SANCHEZ	1977-06-13	M	F	
11110	Ms	CURTIS	YANG	1962-06-06	M	M	
11190	Ms	CARSON	BRYANT	1944-06-22	M	M	
11194	Ms	JACQUELINE	PRICE	1945-06-10	M	F	
11196	Ms	ALFREDO	ROMERO	1946-06-07	M	M	

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).

```
211 •   select FirstName,LastName, avg(Age) as Avg_Age
212     from `adventureworks_customers` (2)
213    where FirstName = 'FELICIA' and LastName = 'GILL';
214
```

Result Grid		
FirstName	LastName	Avg_Age
FELICIA	GILL	54.0000

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

```
215 •   Select FirstName, LastName, annualincome_clean
216     from `adventureworks_customers` (2)
217    where annualincome_clean like '%7%';
218
```

Result Grid		
FirstName	LastName	annualincome_clean
CHRISTY	ZHU	70000.00
JULIO	RUIZ	70000.00
SHANNON	CARLSON	70000.00
JACQUELYN	SUAREZ	70000.00
MEGAN	SANCHEZ	70000.00
CARL	ANDERSEN	70000.00
GRACE	BUTLER	70000.00
AMY	YE	70000.00
LEVI	ARUN	70000.00
DAMIEN	CHANDER	170000.00

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).

```
219 •   Select Occupation,EducationLevel, count(*) as Total_count
220     from `adventureworks_customers` (2)
221    where Occupation = 'Manual' and EducationLevel = 'Partial College';
222
```

Result Grid		
Occupation	EducationLevel	Total_count
Manual	Partial College	740

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

```
224 • Select * from `adventureworks_customers` (2)
225   where BirthDate < '1990-01-01';
226
```

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender
11000	Ms	JANE	YANG	1966-04-08	M	M
11001	Ms	EUGENE	HUANG	1965-05-14	S	M
11002	Ms	RUBEN	TORRES	1965-08-12	M	M
11003	Ms	CHRISTY	ZHU	1968-02-15	S	F
11004	Ms	ELIZABETH	JOHNSON	1968-08-08	S	F
11005	Ms	JULIO	RUIZ	1965-08-05	S	M
11007	Ms	MARCO	MEHTA	1964-05-09	M	M

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

```
224 • Select * from `adventureworks_customers` (2)
225   where BirthDate < '1990-01-01';
226
```

CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender
11000	Ms	JANE	YANG	1966-04-08	M	M
11001	Ms	EUGENE	HUANG	1965-05-14	S	M
11002	Ms	RUBEN	TORRES	1965-08-12	M	M
11003	Ms	CHRISTY	ZHU	1968-02-15	S	F
11004	Ms	ELIZABETH	JOHNSON	1968-08-08	S	F
11005	Ms	JULIO	RUIZ	1965-08-05	S	M
11007	Ms	MARCO	MEHTA	1964-05-09	M	M

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).

```
230 • select MaritalStatus, Occupation, avg(annualincome_clean) as Avg_income
231   from `adventureworks_customers` (2)
232   where MaritalStatus = 'M' and Occupation = 'Clerical';
233
```

MaritalStatus	Occupation	Avg_income
M	Clerical	30504.619758

72. Create a query to identify customers who has born within a specific date range (e.g., January 1, 1979 - March 31, 1980).

```
---  
234 •   select FirstName, LastName, BirthDate  
235     from `adventureworks_customers` (2)  
236     where BirthDate between '1979-01-01' and '1980-03-31';  
237
```

Result Grid			
	FirstName	LastName	BirthDate
▶	CHLOE	YOUNG	1979-02-27
	WYATT	HILL	1979-04-28
	CAROLINE	RUSSELL	1980-01-06
	AMANDA	RIVERA	1980-03-12
	MARCUS	HARRIS	1979-11-03
	EDWARD	HERNANDEZ	1979-09-09
	JASMINE	COLEMAN	1979-12-08

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

```
238 •   SELECT * FROM `adventureworks_customers` (2)  
239     WHERE LENGTH(FirstName) - LENGTH(REPLACE(LOWER(FirstName), 'a', '')) +  
240           LENGTH(FirstName) - LENGTH(REPLACE(LOWER(FirstName), 'e', '')) +  
241           LENGTH(FirstName) - LENGTH(REPLACE(LOWER(FirstName), 'i', '')) +  
242           LENGTH(FirstName) - LENGTH(REPLACE(LOWER(FirstName), 'o', '')) +  
243           LENGTH(FirstName) - LENGTH(REPLACE(LOWER(FirstName), 'u', '')) = 2;  
244
```

Result Grid								
	CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress
	11000	Ms	JANE	YANG	1966-04-08	M	M	jon24@adventure-works.com
	11001	Ms	EUGENE	HUANG	1965-05-14	S	M	eugene10@adventure-works.com
	11005	Ms	JULIO	RUIZ	1965-08-05	S	M	julio1@adventure-works.com
	11019	Ms	LUKE	LAL	1978-03-07	S	M	luke18@adventure-works.com
	11033	Ms	JAIME	NATH	1947-09-23	M	M	jaime41@adventure-works.com
	11038	Ms	DIANA	HERNANDEZ	1948-03-23	M	F	diana2@adventure-works.com

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).

```
---  
248 •   Select Gender, annualincome_clean, count(*) as Customer_Count  
249     from `adventureworks_customers` (2)  
250     where Gender = 'M' and annualincome_clean between 75000 and 100000  
251     group by Gender, annualincome_clean ;  
252
```

Result Grid			
	Gender	annualincome_clean	Customer_Count
▶	M	90000.00	415
	M	100000.00	286
	M	80000.00	659

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

```
253 •   select FirstName, LastName, EducationLevel
254     from `adventureworks_customers` (2)
255   order by EducationLevel asc;
256
```

FirstName	LastName	EducationLevel
ALEX	BAILEY	Bachelors
BRENT	YE	Bachelors
RANDALL	DIAZ	Bachelors
GILBERT	YE	Bachelors
GLENN	WU	Bachelors
BRIDGET	SHAN	Bachelors
ABBY	MARTINEZ	Bachelors
EDGAR	PEREZ	Bachelors
ROBERTO	HERNANDEZ	Bachelors

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).

```
257 •   select Gender, MaritalStatus, sum(annualincome_clean) as Total_income
258     from `adventureworks_customers` (2)
259   where Gender = 'F' and MaritalStatus = 'M'
260   group by Gender, MaritalStatus;
```

Gender	MaritalStatus	Total_income
F	M	278210000.00

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').

```
262 •   select LastName from `adventureworks_customers` (2)
263   where LastName like 'S%N';
264
```

Lastname
SHEN
SHAN
SUN
SHAN
SHAN
SUN
SHAN

78. Create a query to identify customers who has Education level from a high school.

```
-- 
265 •   select FirstName, LastName, EducationLevel
266     from `adventureworks_customers` (2)
267     where EducationLevel = 'High school';
268
```

	FirstName	LastName	EducationLevel
▶	SHANNON	WANG	High School
	LUKE	LAL	High School
	JORDAN	KING	High School
	THERESA	RAMOS	High School
	DENISE	STONE	High School
	JAIME	NATH	High School

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

```
269 •   select * from `adventureworks_customers` (2)
270     where length(EmailAddress) = 30;
271
272
```

	CustomerKey	Prefix	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress
	11004	Ms	ELIZABETH	JOHNSON	1968-08-08	S	F	elizabeth5@adventure-works.com
	11018	Ms	CLARENCE	RAI	1944-10-09	S	M	clarence32@adventure-works.com
	11036	Ms	JENNIFER	RUSSELL	1978-12-18	M	F	jennifer93@adventure-works.com
	11046	Ms	CHRISTINE	YUAN	1950-03-22	M	F	christine4@adventure-works.com
	11081	Ms	SAVANNAH	BAKER	1966-07-24	M	F	savannah39@adventure-works.com
	11111	Ms	MEREDITH	GUTIERREZ	1962-02-23	M	F	meredith34@adventure-works.com

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).

```
272 •   select EducationLevel, Occupation, avg(annualincome_clean)
273     from `adventureworks_customers` (2)
274     where EducationLevel = 'Graduate Degree' and Occupation = 'Skilled Manual';
275
```

	EducationLevel	Occupation	avg(annualincome_clean)
	Graduate Degree	Skilled Manual	57584.803256

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

```
276 • Select * from (select *, row_number() over (partition by Occupation
277   order by annualincome_clean desc) as Occupation_Rank
278   from `adventureworks_customers (2)`
279   as Ranked_Customers where occupation_Rank = 1;
```

FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	annualincome_clean	TotalChildren	EducationLevel	Occupation	HomeOwner	Age	Occupation_Rank
LUCAS	HALL	1975-11-20	M	M	lucas38@adventure-works.com	\$40,000	40000.00	3	Partial College	Clerical	Y	48	1
ISAAC	SANDBERG	1943-09-03	M	M	isaac3@adventure-works.com	\$170,000	170000.00	2	Graduate Degree	Management	N	80	1
DOMINIC	SAI	1972-07-21	S	M	dominic6@adventure-works.com	\$30,000	30000.00	0	High School	Manual	N	51	1
SHANNON	NAVARRO	1954-11-07	M	M	shannon31@adventure-works.com	\$170,000	170000.00	3	High School	Professional	Y	69	1
MEREDITH	LOPEZ	1947-04-07	S	F	meredith16@adventure-works.com	\$90,000	90000.00	5	Partial High School	Skilled Manual	N	77	1

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

```
281 •     select FirstName from `adventureworks_customers (2)`
282       where FirstName like '%T%';
283
284
```

FirstName
CHRISTY
ELIZABETH
CURTIS
WYATT
DESTINY
ETHAN
SETH
BETHANY

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).

```
284 •     select MaritalStatus, annualincome_clean, count(*) as Total_customer
285       from `adventureworks_customers (2)`
286       where MaritalStatus = 'S' and annualincome_clean between 50000 and 75000
287       group by MaritalStatus, annualincome_clean;
```

MaritalStatus	annualincome_clean	Total_customer
S	60000.00	1184
S	70000.00	1063
S	50000.00	329

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

```
289 • select LastName from `adventureworks_customers (2)`
290   where length(LastName) - length(Regexp_replace(Lower(LastName), '[^aeiou]', '')) =2;
291
292
```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:	Fetch rows:
	LastName				
▶	ZHU				
	RUIZ				
	LAL				
	ZHAO				
	YUAN				
	NARA				
	YUAN				

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

```
292 • Select * from (select *, row_number() over (partition by Occupation
293   order by BirthDate asc) as Occupation_Rank
294   from `adventureworks_customers (2)`
295   as Ranked_Customers order by Occupation,BirthDate;
```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:	Fetch rows:									
	FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	annualincome_clean	TotalChildren	EducationLevel	Occupation	HomeOwner	Age	Occupation_Ra
▶	EMMA	WILLIAMS	1913-09-10	S	F	emma1@adventure-works.com	\$30,000	30000.00	1	Partial College	Clerical	Y	110	1
	JACLYN	WU	1919-04-08	S	F	jadyn7@adventure-works.com	\$10,000	10000.00	3	Bachelors	Clerical	N	105	2
	JACK	COLEMAN	1919-06-06	M	M	jack6@adventure-works.com	\$20,000	20000.00	3	Partial High School	Clerical	N	104	3
	MACKENZIE	BAKER	1919-08-27	S	F	mackenzie37@adventure-works.com	\$20,000	20000.00	2	Graduate Degree	Clerical	Y	104	4
	ELIZABETH	PERRY	1920-02-26	M	F	elizabeth37@adventure-works.com	\$10,000	10000.00	3	Bachelors	Clerical	N	104	5
	SHARON	GOEL	1920-07-13	M	F	sharon25@adventure-works.com	\$20,000	20000.00	2	Bachelors	Clerical	Y	103	6
	ALEXA	KELLY	1920-09-15	M	F	alexa2@adventure-works.com	\$10,000	10000.00	3	Bachelors	Clerical	N	103	7
	NATHANIEL	RAMIREZ	1921-03-10	S	M	nathaniel8@adventure-works.com	\$20,000	20000.00	3	Partial High School	Clerical	N	103	8

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).

```
297 • select MaritalStatus, EducationLevel, avg(annualincome_clean) as Avg_income
298   from `adventureworks_customers (2)`
299   where MaritalStatus = 'M' and EducationLevel = 'Bachelors';
300
```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
	MaritalStatus	EducationLevel	Avg_income	
▶	M	Bachelors	62643.489669	

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

```
301 •   Select FirstName, LastName, EmailAddress from `adventureworks_customers` (2)
302     where EmailAddress like '%@%';
303
```

Result Grid		
FirstName	LastName	EmailAddress
JANE	YANG	jon24@adventure-works.com
EUGENE	HUANG	eugene10@adventure-works.com
RUBEN	TORRES	ruben35@adventure-works.com
CHRISTY	ZHU	christy12@adventure-works.com
ELIZABETH	JOHNSON	elizabeth5@adventure-works.com
JULIO	RUIZ	julio1@adventure-works.com
MARCO	MEHTA	marco14@adventure-works.com
ROBIN	VERHOFF	rob4@adventure-works.com

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

```
304 •   select Occupation, Gender, sum(annualincome_clean) as Total_income
305     from `adventureworks_customers` (2)
306     where Occupation = 'Management' and Gender = 'M'
307     group by Occupation, Gender;
```

Result Grid		
Occupation	Gender	Total_income
Management	M	143930000.00

89. 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').

```
309 •   select FirstName from `adventureworks_customers` (2)
310     where FirstName like 'A%A';
311
```

Result Grid	
FirstName	
AMANDA	
ANA	
ANGELA	
ANGELA	
ALYSSA	
AMANDA	
ANGELA	

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

```
312 • SELECT *, ROW_NUMBER() OVER (PARTITION BY MaritalStatus ORDER BY TotalChildren DESC) AS marital_status_rank
313   FROM `adventureworks_customers` (2)
314   ORDER BY MaritalStatus, TotalChildren DESC;
315
```

FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	annualincome_clean	TotalChildren	EducationLevel	Occupation	HomeOwner	Age	Maritalstatus
STEPHANIE	GRIFFIN	1961-07-22	M	F	stephanie48@adventure-works.com	\$80,000	80000.00	5	Partial College	Professional	Y	62	1
JAY	ALVAREZ	1958-05-04	M	M	jay34@adventure-works.com	\$70,000	70000.00	5	Graduate Degree	Professional	Y	66	2
COREY	DENG	1947-05-17	M	M	corey1@adventure-works.com	\$120,000	120000.00	5	High School	Management	N	76	3
KRYSTAL	WAGNER	1947-06-05	M	F	krystral1@adventure-works.com	\$90,000	90000.00	5	Partial High School	Skilled Manual	Y	76	4
IAN	FLORES	1951-04-10	M	M	ian53@adventure-works.com	\$70,000	70000.00	5	Partial High School	Skilled Manual	N	73	5
JACLYN	MA	1945-04-15	M	F	iadvn17@adventure-works.com	\$90,000	90000.00	5	Partial College	Professional	Y	79	6

91. 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).

```
316 •   SELECT EducationLevel, Gender, AVG(Age) AS Avg_Age
317     FROM `adventureworks_customers` (2)
318    WHERE EducationLevel = 'Partial College' AND Gender = 'F'
319    GROUP BY EducationLevel, Gender;
```

EducationLevel	Gender	Avg_Age
Partial College	F	61.5347

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

```
320
321 •   SELECT FirstName, LastName FROM `adventureworks_customers` (2)
322    WHERE LastName LIKE 'MC%';
323
```

FirstName	LastName
GEORGE	MCDONALD
CESAR	MCDONALD
BRENT	MCDONALD
HAROLD	MCDONALD
CLAUDIA	MCDONALD
DEBORAH	MCDONALD
JENNY	MCDONALD

93. 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).

```
---  
324 •   SELECT EducationLevel, MaritalStatus, SUM(annualincome_clean) AS Total_income  
325     FROM `adventureworks_customers` (2)  
326     WHERE EducationLevel = 'Bachelors' AND MaritalStatus = 'S'  
327     GROUP BY EducationLevel, MaritalStatus;
```

Result Grid		
EducationLevel	MaritalStatus	Total_income
Bachelors	S	147790000.00

94. Create a query to find customers whose email address domain is a specific number of characters long (e.g., 33 characters).

```
---  
329 •   SELECT FirstName, LastName, EmailAddress  
330     FROM `adventureworks_customers` (2)  
331     WHERE LENGTH (EmailAddress) = 33;  
332
```

Result Grid		
FirstName	LastName	EmailAddress
CHRISTOPHER	JOHNSON	christopher25@adventure-works.com
CHRISTOPHER	ROBINSON	christopher18@adventure-works.com
CHRISTOPHER	WALKER	christopher23@adventure-works.com
CHRISTOPHER	JONES	christopher27@adventure-works.com
CHRISTOPHER	ANDERSON	christopher10@adventure-works.com
CHRISTOPHER	GARCIA	christopher16@adventure-works.com

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

```
337 •   SELECT * FROM (SELECT *,  
338         ROW_NUMBER() OVER (PARTITION BY EducationLevel ORDER BY annualincome_clean ASC) AS income_rank_within_education  
339     FROM `adventureworks_customers` (2)) AS Ranked_Customers  
340     ORDER BY EducationLevel, AnnualIncome ASC;
```

Result Grid													
FirstName	LastName	BirthDate	MaritalStatus	Gender	EmailAddress	AnnualIncome	annualincome_clean	TotalChildren	EducationLevel	Occupation	HomeOwner	Age	income_rank_within_education
BONNIE	LAL	1937-09-27	S	F	bonnie14@adventure-works.com	\$10,000	10000.00	2	Bachelors	Clerical	Y	86	1
LINDSAY	DENG	1938-05-25	S	F	lindsay1@adventure-works.com	\$10,000	10000.00	2	Bachelors	Clerical	N	85	2
DAMIEN	YUAN	1958-09-03	S	M	damien24@adventure-works.com	\$10,000	10000.00	1	Bachelors	Manual	Y	65	3
ADRIANA	RAMAN	1961-01-17	S	F	adriana13@adventure-works.com	\$10,000	10000.00	1	Bachelors	Manual	N	63	4
STANLEY	RODRIGUEZ	1962-11-11	M	M	stanley21@adventure-works.com	\$10,000	10000.00	1	Bachelors	Manual	Y	61	5
DONNA	YUAN	1962-10-02	M	F	donna6@adventure-works.com	\$10,000	10000.00	1	Bachelors	Manual	Y	61	6
BARBARA	LIU	1962-12-20	M	F	barbara14@adventure-works.com	\$10,000	10000.00	1	Bachelors	Manual	Y	61	7
GERALD	GUTIERREZ	1958-01-12	S	M	gerald19@adventure-works.com	\$10,000	10000.00	1	Bachelors	Manual	N	66	8

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

```
342 •   SELECT Occupation, MaritalStatus, AVG(Age)
343     FROM `adventureworks_customers` (2)
344     WHERE Occupation = 'Professional' AND MaritalStatus = 'M';
345
```

Result Grid		
Occupation	MaritalStatus	AVG(Age)
Professional	M	63.4040

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

```
346 •   SELECT FirstName FROM `adventureworks_customers` (2)
347     WHERE FirstName LIKE '%DO';
348
```

Result Grid	
	FirstName
▶	ORLANDO
	EDUARDO
	ALFREDO
	EDUARDO
	ORLANDO
	FERNANDO

98. Create a query to identify customers who has born on a specific day of the week (e.g., Sunday).

```
349 •   SELECT FirstName, LastName, BirthDate
350     FROM `adventureworks_customers` (2)
351     WHERE DAYOFWEEK(BirthDate) = 1;
352
```

Result Grid			
	FirstName	LastName	BirthDate
▶	DESTINY	WILSON	1978-09-03
	RUSSELL	XIE	1978-09-17
	ALEJANDRO	BECK	1945-12-23
	CHLOE	GARCIA	1977-11-27
	AMANDA	CARTER	1977-10-16
	CHASE	REED	1975-12-07
	LINDA	SERRANO	1955-06-26