

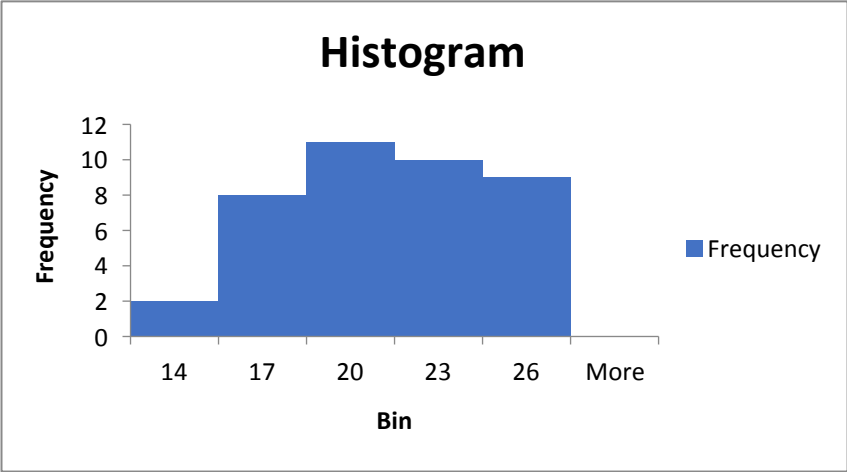
Question	Type
What is your age?	Quantitative
Are you male or female?	Categorical
When did you first start reading the WSJ? High school, college, early career, midcareer, late career, or retirement?	Categorical
How long have you been in your present job or position (in years)?	Quantitative
What type of vehicle are you considering for your next purchase? Nine response categories include sedan, sports car, SUV, minivan, and so on.	Categorical

1. A Wall Street Journal subscriber survey asked 46 questions about subscriber characteristics and interests. State whether each of the questions to the left provides categorical or quantitative data.

Data

14		Bins	Frequency	Relative Frequency	Percent Frequency	Bins Array
19	12	12-14	2	0.05	5%	14
24	26	15-17	8	0.2	20%	17
19		18-20	11	0.275	28%	20
16		21-23	10	0.25	25%	23
20		24-26	9	0.225	23%	26
24			0	1		

20		Percentiles	
21		20th	16
22		25th	17.75
24		65th	22
18		75th	23



2. Consider the Following Data.

A. Are these data categorical or quantitative?

Quantitative

B. Develop a frequency distribution using classes of 12-14, 15-17, 18-20, 21-23, and 24-26.

C. Develop a relative frequency distribution and a percent frequency distribution using the classes in part A.

D. Create a histogram graph using the bins from part A.

E. Compute the 20th, 25th, 65th, and 75th percentiles.

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20

Year	Stivers (\$)	Trippi (\$)
1	11000	5600
2	12000	6300
3	13000	6900
4	14000	7600
5	15000	8500
6	16000	9200
7	17000	9900
8	18000	10600

3. Suppose that you initially invested \$10,000 in the Stivers mutual fund and \$5,000 in the Trippi mutual fund. The value of each investment at the end of each subsequent year is provided in the table.

A. Which of the two mutual funds performed better over this period? Why?  
**Trippi performed better because you made more money back than you put in (5600) while you made 8000 back with Stivers but you put in 10000**

Salesperson	Total Sales (\$)	Average Performance Bonus Previous Years (\$)	Customer Accounts	Years with Company
Smith, Michael	\$ 325,000.78	\$ 12,499.35	124	14
Yu, Joe	\$ 13,678.21	\$ 239.94	9	7
Reeves, Bill	\$ 452,359.19	\$ 21,987.25	175	21
Hamilton, Joshua	\$ 87,423.91	\$ 7,642.90	28	3
Harper, Derek	\$ 87,654.21	\$ 1,250.14	21	4
Quinn, Dorothy	\$ 234,091.39	\$ 14,567.98	48	9
Graves, Lorrie	\$ 379,401.94	\$ 27,981.44	121	12
Sun, Yi	\$ 31,733.59	\$ 672.91	7	1
Thompson, Nicole	\$ 127,845.22	\$ 13,322.97	17	3

4. A sales manager is trying to determine appropriate sales performance bonuses for her team this year. The following table contains the data relevant to determining the bonuses, but it is not easy to read and interpret. Reformat the table to improve readability and to help the sales manager make her decisions about bonuses. List each step you make to reformat the table.

1. Switched Columns B and C to accounting format

2.Unbolded Numbers

3.Removed Horizontal Lines

4.Highlighted Total sale values greater than or equal to \$100000

5.

- .
- .
- .
- .

(Add more if you need them)

	Column Labels				
	0-9999	10000-19999	20000-29999	30000-39999	Grand Total
Count of # U.S. Locations	13	3	1	3	20

5. Entrepreneur magazine ranks franchises. Among the factors that the magazine uses in its rankings are growth rate, number of locations, start-up costs, and financial stability. A recent ranking listed the top 20 U.S. franchises and the number of locations as in the table.

A. Create a PivotTable to summarize these data using classes 0-9,999, 10,000-19,999, 20,000-29,999, and 30,000-39,999 to answer the next questions. (Hint: Use Number of U.S. Locations as the COLUMNS, and use Count of Number of U.S. Locations as the VALUES in the PivotTable.

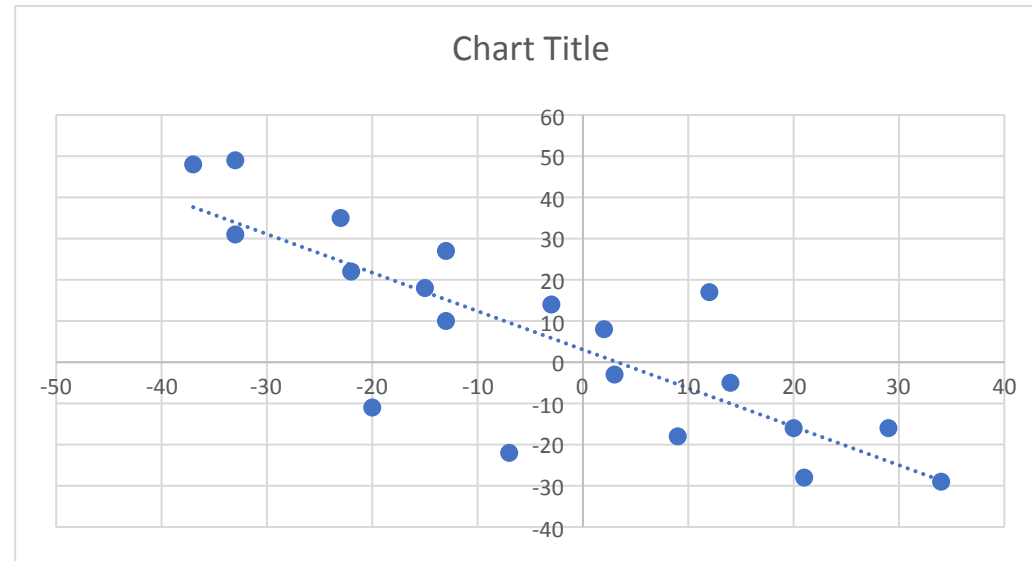
B. How many franchises have between 0 and 9,999 locations?

**13**

C. How many franchises have more than 30,000 locations?

**3**

Observation	x	y
1	-22	22
2	-33	49
3	2	8
4	29	-16
5	-13	10
6	21	-28
7	-13	27
8	-23	35
9	14	-5
10	3	-3
11	-37	48
12	34	-29
13	9	-18
14	-33	31
15	20	-16
16	-3	14
17	-15	18
18	12	17
19	-20	-11
20	-7	-22



6. The following table includes 20 observations for two quantitative variables x, and y.

A. Create a scatter chart for these 20 observations.

B. Fit a linear trendline to the 20 observation. What can you say about the relationship between the two quantitative variables?

**They have a Negative Relationship**