Practice 7

Question 1

Using the ZAGAT DATA

a. Using the variable **credit** create a bar graph, where the y axis will represent the number of restaurants taking credit cards.

0	0
	0
1	49
Grand Total	49

Figure 7-1a: Pivot Table Restaurants that accept credit cards

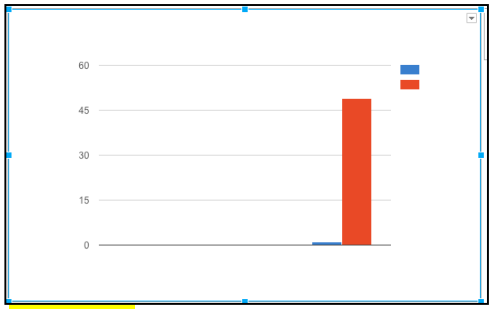


Figure 7-1b: Out of the 50 restaurants, only 1 did not accept credit cards.

b. Using the variable **cost** create a 5-point summary and a descriptive table.

Cost	
Min	47
Q1	55
Q2	62
Q3	74
Max	96

Figure 7-1b2: Min cost was $47; Max was $96; 25% of costs < $55; 75% > $55.

Descriptive Statistics: Cost	
Mean	64.66115385
Standard Error	1.828920647
Median	61.54961538
Mode	75
Standard Deviation	12.93242192
Sample Variance	167.2475367
Kurtosis	-0.008996109273
Skewness	0.920341864
Range	49
Minimum	47
Maximum	96
Sum	3233.057692
Count	50
Largest(1)	96
Smallest(1)	47
Confidence Level(95%)	3.675353574

Figure 7-1b3: Mean-64.7; Median-61.5; Mode-75; Skewness-0.9

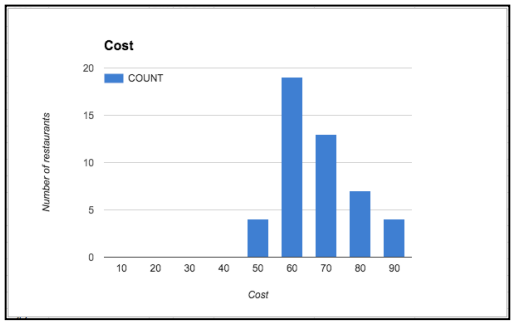


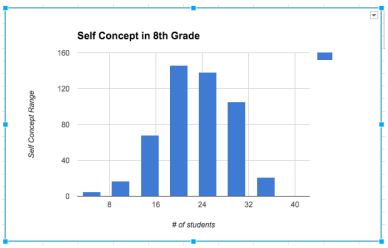
Figure 7-1b3: Histogram

Question 2

a. Using the NELS DATA, create a 5-point summary and an appropriate graph for the following variable: **Self Concept** in **8.**

0	0
	0
1	1
5	15
6	6
7	42
8	16
9	45
10	30
11	44
12	36
13	260
14	98
15	510
16	80
17	748
18	576
19	684
20	580
21	630
22	660
23	805
24	480
25	575
26	598
27	540
28	532
29	551
30	720
31	93
32	576
Grand Total	10531

Self-Concept 8th Grade	
Mean	21.062
Standard Error	0.2670335669
Median	21
Mode	17
Standard Deviati	5.971052079
Sample Variance	35.65346293
Kurtosis	-0.007364776999
Skewness	-0.2863931026
Range	32
Minimum	0
Maximum	32
Sum	10531
Count	500
Largest(1)	32
Smallest(1)	0
Confidence Leve	0.5246486749



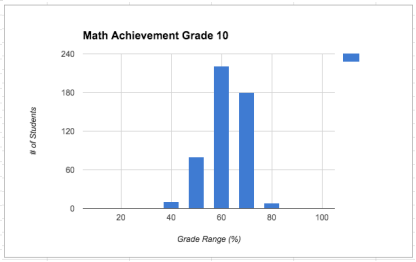
Question 3

a. Using the NELS DATA, analyze the relationship between **Tenth Grade Math achievement (X)** and **Twelfth Grade Math achievement (Y)**.

Please Note:
Analyze
1. *Describe*
2. *Visualize*
3. *Correlation*
4. *Interpretation*

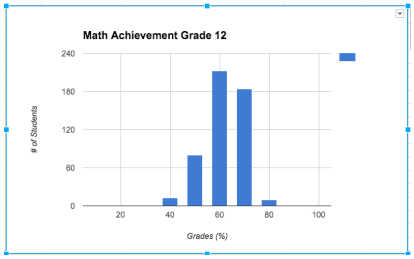
Math Achievement Grade 10	
Mean	56.98974
Standard Error	0.3504192855
Median	57.23
Mode	71.05
Standard Deviation	7.835613429
Sample Variance	61.39683781
Kurtosis	-0.4757036838
Skewness	-0.3292532779
Range	36.4
Minimum	34.65
Maximum	71.05
Sum	28494.87
Count	500
Largest(1)	71.05
Smallest(1)	34.65
Confidence Level(95	0.68847904

Math Achievement Grade 10	
Min	34.65
Q1	52.1025
Q2	57.23
Q3	63.075
Max	71.05



Math Achievement Grade 12	
Mean	56.90662
Standard Error	0.3525844062
Median	57.215
Mode	55.36
Standard Deviation	7.884027
Sample Variance	62.15788174
Kurtosis	-0.344842552
Skewness	-0.423348127
Range	36.76
Minimum	34.36
Maximum	71.12
Sum	28453.31
Count	500
Largest(1)	71.12
Smallest(1)	34.36
Confidence Level(95%)	0.6927329161

Math Achievement Grade 12	
Min	34.36
Q1	51.3925
Q2	57.215
Q3	63.4
Max	71.12



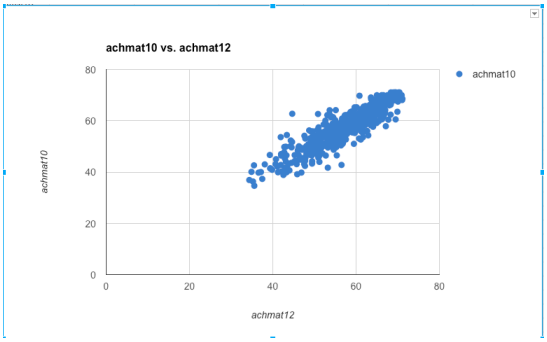
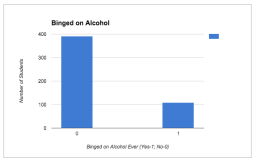


Figure 3a: Scatter plot- relationship between Math Achievement in 10th and math achievement in 12th grade. Linear relationship. Correlation is strong

Question 4

a. Using NELS DATA analyze the relationship between the variable Binged on Alcohol Ever? (X) And Tenth Grade Math Achievement (Y).

0	392
	0
1	108



Min	34.65
Q1	52.1025
Q2	57.23
Q3	63.075
Max	71.05

achmat10	
Mean	56.98974
Standard Error	0.3504192855
Median	57.23
Mode	71.05
Standard Deviation	7.835613429
Sample Variance	61.39683781
Kurtosis	-0.4757036838
Skewness	-0.3292532779
Range	36.4
Minimum	34.65
Maximum	71.05
Sum	28494.87
Count	500
Largest(1)	71.05
Smallest(1)	34.65
Confidence Level(95	0.68847904

Question 5

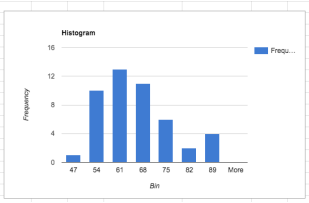
a. Using ZAGAT DATA analyze the relationship between **Cost(Y)** and **Décor(X)**

cost	
Mean	64.66115385
Standard Error	1.828920647
Median	61.54961538
Mode	75
Standard Deviation	12.93242192
Sample Variance	167.2475367
Kurtosis	-0.008996109273
Skewness	0.920341864
Range	49
Minimum	47
Maximum	96
Sum	3233.057692
Count	50
Largest(1)	96
Smallest(1)	47
Confidence Level(95%)	3.675353574

COST	
Min	47.00
Q1	55.02
Q2	61.55
Q3	74.00
Max	96.00

COST

Bin	Frequency
47	1
54	10
61	13
68	11
75	6
82	2
89	4
More	



decor	
Mean	22.98
Standard Error	0.5042594085
Median	24
Mode	25
Standard Deviation	3.565652472
Sample Variance	12.71387755
Kurtosis	0.5255538658
Skewness	-1.018356039
Range	15
Minimum	13
Maximum	28
Sum	1149
Count	50
Largest(1)	28
Smallest(1)	13
Confidence Level(95%)	1.013347201

DECOR	
Min	13.00
Q1	21.00
Q2	24.00
Q3	26.00
Max	28.00

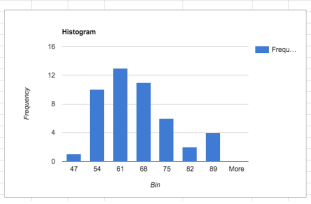
b. Using ZAGAT DATA analyze the relationship between **Cost(Y)** and **Service(X)**.

cost	
Mean	64.66115385
Standard Error	1.828920647
Median	61.54961538
Mode	75
Standard Deviation	12.93242192
Sample Variance	167.2475367
Kurtosis	-0.008996109273
Skewness	0.920341864
Range	49
Minimum	47
Maximum	96
Sum	3233.057692
Count	50
Largest(1)	96
Smallest(1)	47
Confidence Level(95%)	3.675353574

COST	
Min	47.00
Q1	55.02
Q2	61.55
Q3	74.00
Max	96.00

COST

Bin	Frequency
47	1
54	10
61	13
68	11
75	6
82	2
89	4
More	



service	
Mean	23.28
Standard Error	0.3959385646
Median	24
Mode	25
Standard Deviation	2.79970844
Sample Variance	7.838367347
Kurtosis	-0.8999247081
Skewness	-0.4220914419
Range	11
Minimum	17
Maximum	28
Sum	1164
Count	50
Largest(1)	28
Smallest(1)	17
Confidence Level(95%)	0.7956683199

SERVICE	
Min	17.00
Q1	21.00
Q2	24.00
Q3	25.00
Max	28.00