Q.1. **Give short answers of the following:** (5x6=30)
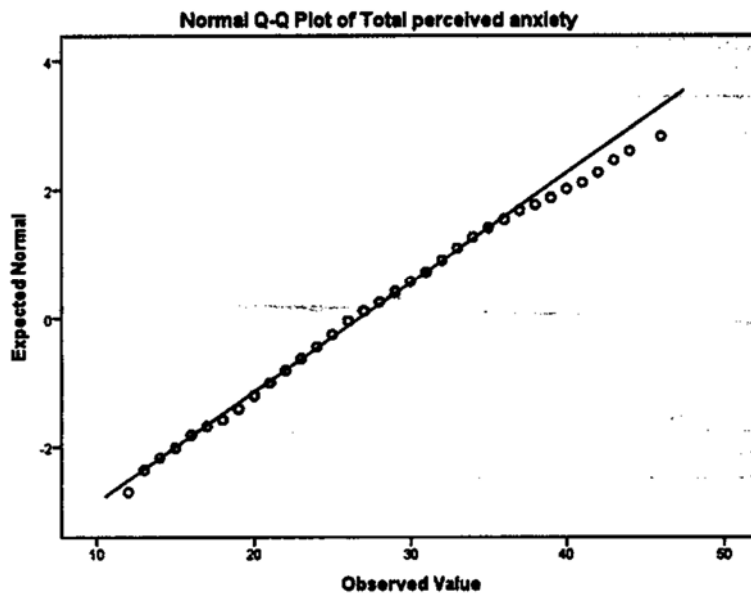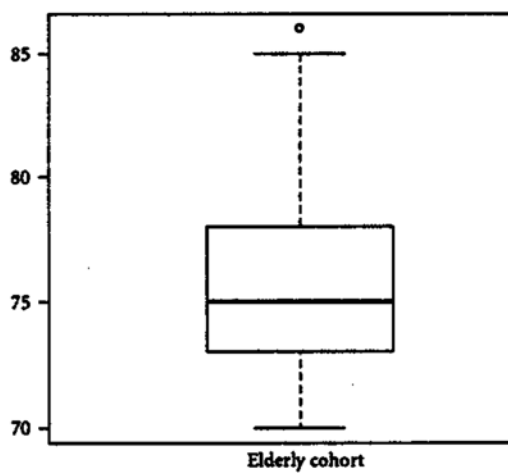
i. Give one example for each of the categorical and quantitative variables. How would you enter these in SPSS?

*Explain the graphs and tables given in ii. to v. below.*

ii.

Normal Q-Q Plot of Total perceived anxiety

iii.

Elderly cohort

iv.

Anxiety * Tension Crosstabulation

			Tension low	Tension high	Total
Anxiety	low	Count	5	21	26
		% within Anxiety	19.2%	80.8%	100.0%
		% within Tension	25.0%	75.0%	54.2%
		% of Total	10.4%	43.8%	54.2%
	high	Count	15	7	22
		% within Anxiety	68.2%	31.8%	100.0%
		% within Tension	75.0%	25.0%	45.8%
		% of Total	31.3%	14.6%	45.8%
Total		Count	20	28	48
		% within Anxiety	41.7%	58.3%	100.0%
		% within Tension	100.0%	100.0%	100.0%
		% of Total	41.7%	58.3%	100.0%

v.

Mean= 55 47
Median= 57
Std Dev = 9 758
Range 36 75
N= 57
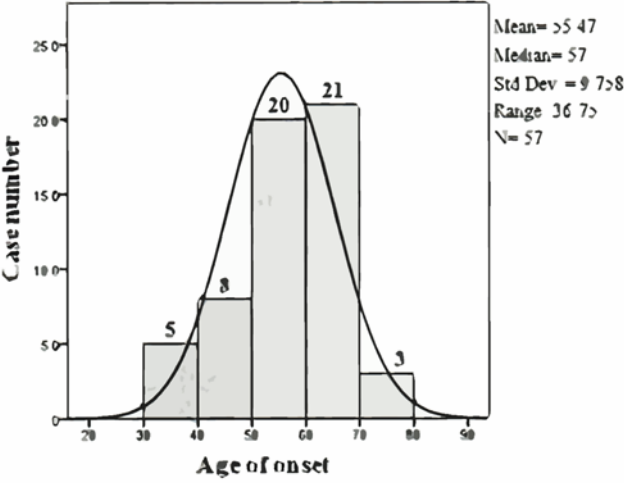
Answers the following questions. (2x15=30)

Q2. Briefly explain the output below. Enlist all the steps to test the significance of the model and regression coefficients. Interpret the values highlighted in the model summary table and in the second column of coefficients table. (15)

Model Summary[b]

Mode l	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.886[a]	.785	.785	4.525

a. Predictors: (Constant), Age 11 standard marks
b. Dependent Variable: Age 14 standard marks

ANOVA[b]

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	1059510.757	1	1059510.757	51750.500	.000
Residual	289412.550	14136	20.473		
Total	1348923.307	14137			

a. Predictors: (Constant), Age 11 standard marks
b. Dependent Variable: Age 14 standard marks

Coefficients[a]

Model	Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1 (Constant)	.261	.038		6.848	.000
Age 11 standard marks	.873	.004	.886	227.487	.000

a. Dependent Variable: Age 14 standard marks

Q3. The sample dataset has placement test scores (out of 100 points) for four subject areas: English, Reading, Math, and Writing. Students in the sample completed all 4 placement tests when they enrolled in the university. Suppose we are particularly interested in the English and Math sections, and want to determine whether students tended to score higher on their English or Math test, on average. Write down all the steps of hypothesis to test if there was a significant difference in the average of the two tests. Also, summarize four important points that are highlighted in the output below. (15)

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	English	82.7441	398	6.84480	.34310
	Math	65.4468	398	8.46214	.42417

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	English & Math	398	.243	.000

Paired Samples Test

	Paired Differences Mean	Paired Differences Std. Deviation	Paired Differences Std. Error Mean	95% Confidence Interval of the Difference Lower	95% Confidence Interval of the Difference Upper	t	df	Sig. (2-tailed)
English - Math	17.30	9.50303	.4763	16.3608	18.2337	36.313	397	.000