MA 155
Project 2: Descriptive Statistics

Part 1:

Calculate the mean, median, variance, standard deviation, minimum, and maximum for "AGE" using the Data Analysis Tool in excel.

From Table 1, the mean age is about 66.98 years (standard deviation of 10.48) while the median age is 68 years (range of 85 – 40 = 45 years). Since the mean age is less than the median age, it is obvious that the age data was left-skewed (negatively skewed). From the table, ages range between 40 and 85 years.

Table 1: Age Distribution

	AGE
Mean	66.98191
Median	68
Standard Deviation	10.47993
Sample Variance	109.829
Minimum	40
Maximum	85

Part 2:

Calculate the mean, median, variance, standard deviation, minimum and maximum for "AGE" by "DIABTYPE" using the Data Analysis Tool in excel. To complete this part of the project, you first need to divide "AGE" into three (3) groups of "DIABTYPE" using the filter function in excel.

Table 2 shows the distribution of age by type of diabetes. The diabetes variable had three categories– type 1, type 2, and others. Based on the table, the mean age for type 1, type 2, and other types of diabetes are 65.62 years, 67.14 years, and 64.85 years respectively. The median age for type 1, type 2, and other types of diabetes are 65 years, 68 years, and 65.5 years respectively. A comparison of the mean and median ages indicates that, type 1 was right-skewed while type 2 and other types of diabetes were left-skewed (negatively skewed). In terms of standard deviation (variability), type 2 recorded the lowest (presents the most accurate mean), followed by other types (presents the second most accurate mean) then type 1 (presents the least accurate mean). The minimum and maximum age range from 40 years to 85 years.

Table 2: Age Distribution by Type of Diabetes

Type 1		*Type 2*		*Other*	
Mean	65.61905	Mean	67.14468995	Mean	64.85
Median	65	Median	68	Median	65.5
Standard Deviation	11.17551	Standard Deviation	10.40772332	Standard Deviation	10.90412766
Sample Variance	124.8919	Sample Variance	108.3207047	Sample Variance	118.9
Minimum	40	Minimum	40	Minimum	43
Maximum	85	Maximum	85	Maximum	85

Part 3:

Calculate the mean, median, variance, standard deviation, minimum and maximum for "AGE" by "HYP2TIME" using the Data Analysis Tool in excel. To complete this part of the project, you first need to divide "AGE" into the two (2) groups of "HYP2TIME" using the filter function in excel.

Based on the table, the mean and median ages for Yes and No are 66.54 and 69 years; 67.01 and 68 years respectively. From the means and the medians, it is crystally clear that the two levels of HYP2TIME were left-skewed (negatively skewed). Comparing the standard deviations of age between the two groups, the variability in ages among the Yes group (standard deviation = 10.89) was slightly higher than the variability in ages among the No group (standard deviation = 10.46). The minimum and maximum ages recorded by both groups were 40 and 85respectively.

Table 3: Age Distribution by HYP2TIME

Yes	
Mean	66.54022989
Median	69
Standard Deviation	10.88716398
Sample Variance	118.5303395
Minimum	40
Maximum	85

No	
Mean	67.00821
Median	68
Standard Deviation	10.45846
Sample Variance	109.3794
Minimum	40
Maximum	85