

1. (3 points) A certain data set contains the following variables: Gender (1 = Female, 2 = Male), Region (1 = Northeast, 2 = Southeast, 3 = Southwest, 4 = Midwest, 5 = West), Age, Annual Taxable Income, and Retirement Savings. List the variables for which a histogram will be an appropriate graphical summary:

Histograms are for quantitative data. The only quantitative variables in the above data set are age, annual taxable income, and retirement savings.

2. (4 points) Consider the data set given below. [The data is already arranged in the increasing order]:

11 25 29 33 33 37 40 42 46 47 49 51 54 57 61 64 86

For this data, create a stemplot (stem-and-leaf plot) below:

1		1
2		59
3		337
4		02679
5		147
6		14
7		
8		6

Stem Unit: 10

3. (5 points) For the data given in the previous problem, provide the five number summary and compute the IQR.

There are 17 numbers. Therefore, the median is the $17/2 = 8.5 \rightsquigarrow$ 9th number. There are 8 numbers less than the median. Therefore as $8/2 = 4$, Q_1 is the average of the 4th and 5th number. Similarly, there are 8 numbers greater than the median, so that Q_3 is the average of the 4th number and 5th number greater than the median.

<i>Min</i>	<i>Q₁</i>	<i>Median</i>	<i>Q₃</i>	<i>Max</i>
11	33	46	55.5	86

This means that $IQR = 55.5 - 33 = 22.5$.