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Class =bs(cs)

Q1) Define the following terms.

   i)   Population and samples

Ans) <u>Population</u>

A population is the entire group that you want to draw conclusions about.

In research, a population doesn't always refer to people. It can mean a group containing elements of anything you want to study, such as objects, events, organizations, countries, species, organisms, etc.

<u>Sample</u>

A sample is the specific group that you will collect data from. The size of the sample is always less than the total size of the population.

The top 50 search results for advertisements for IT jobs in the Netherlands on May 1, 2020

   ii)   <u>The Range</u>

difference between the lowest and highest values.

In {4, 6, 9, 3, 7} the lowest value is 3, and the highest is 9, so the range is $9 - 3 = 6$.

Range can also mean all the output values of a function.

   a) The Weighted Arithmetic Mean

   b) The **weighted arithmetic mean** is similar to an ordinary arthemetic mean (the most common type of average), except that instead of each of the data points contributing equally to the final average, some data points contribute more than others. The notion of weighted mean plays a role in descripted and also occurs in a more general form in several other areas of mathematics.
   c) If all the weights are equal, then the weighted mean is the same as the arthemetic mean. While weighted means generally behave in a similar fashion to arithmetic means, they do have a few counterintuitive properties, as captured for instance in simpson.

Q1) Construct a grouped frequency distribution table and cumulative frequency curve (Ogive) for the observations below.

Ans) The lowest value is 363 and the highest is 431.

Using the given data and a class interval of 10, the interval for the first class is 360 to 369 and includes 363 (the lowest value). Remember, there should always be enough class intervals so that the highest value is included.

The completed frequency distribution table should look like this:

360–369	II	2
8370–379	III	3
380–389	HHT	5
390–399	HHT II	7
400–409	HHT	5
410–419	IIII	4
420–429	III	3
430–439	I	1
Total		30

Q2)
Ans) Arthemetic mean =x1+x2+x3...xn/n

 11913/30

= 397.1

Geometric mean=n√x1*x2*x3....xn

 $1.391625388*10^{39}$