

1. Maths - Statistics - Part - 1

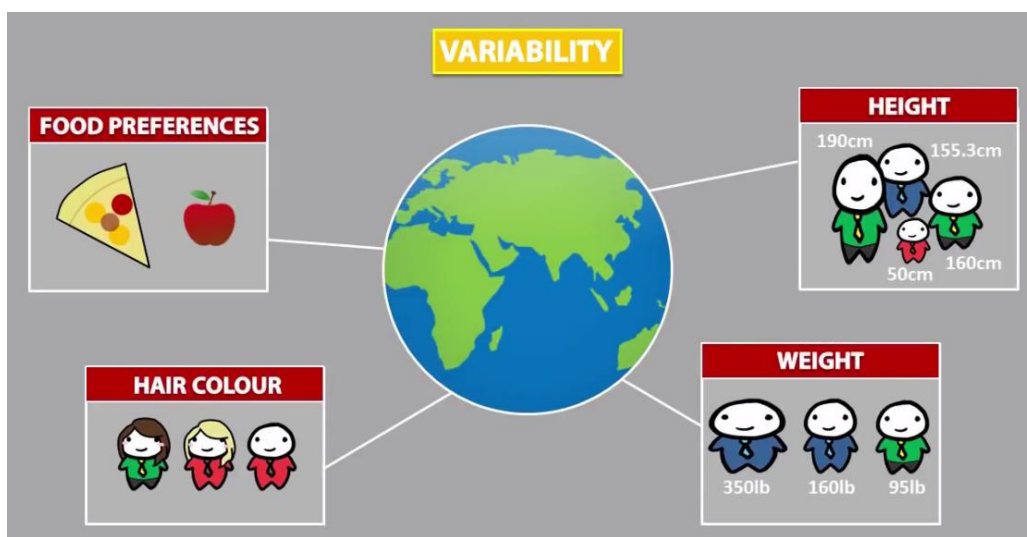
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1. Maths - Statistics - Part - 1

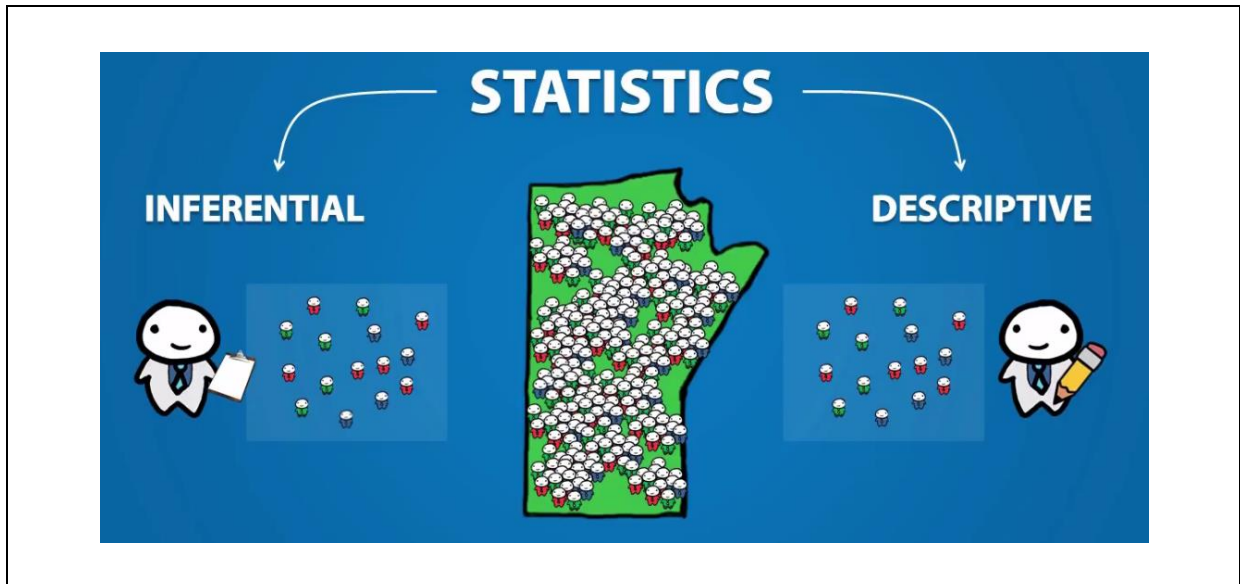
1. Statistics

- ✓ Statistics is the branch of mathematics dealing with the,
 - Data collection
 - Data Analysis,
 - Interpretation
 - Data presentation
 - Organizing the numerical data.



2. Types of statistics

- ✓ Inferential statistics
- ✓ Descriptive statistics



2.1. Inferential statistics

- ✓ Many times, a collection of the entire data is impossible.
- ✓ Hence a subset of the data points is collected.
- ✓ From the subset we can get conclusions about the entire population.
- ✓ This is called as inferential statistics.

2.2. Descriptive statistics

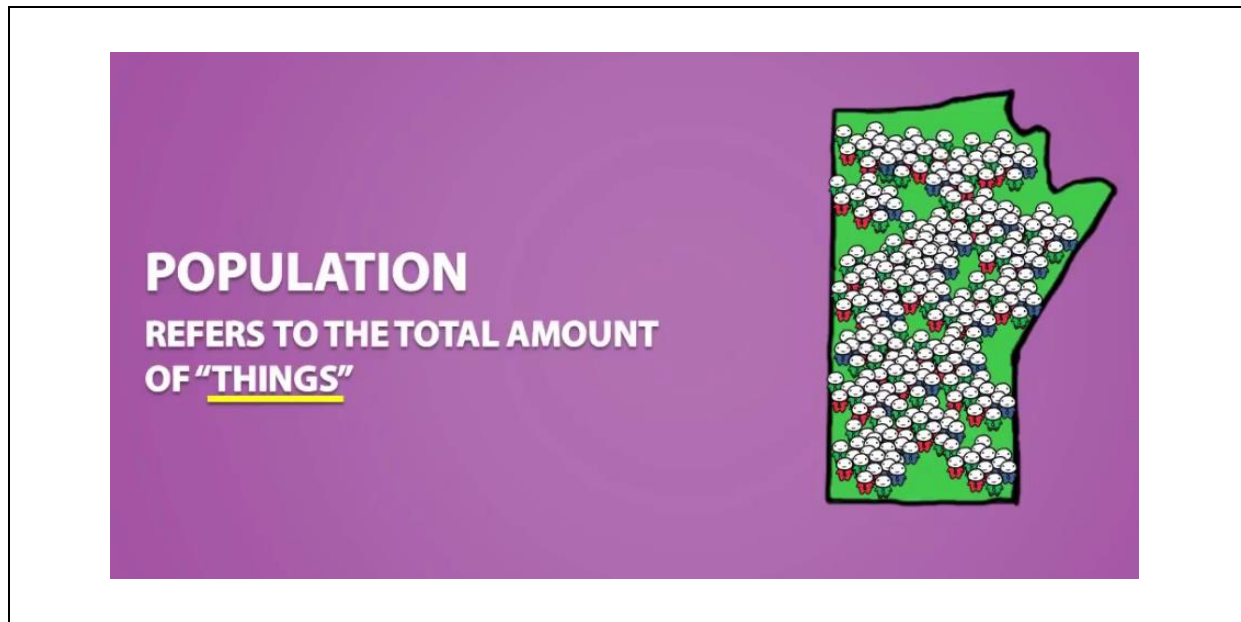
- ✓ These are used to summarize data, such as the mean, standard deviation & etc

Kind Info

- ✓ While applying statistics on data we can find underlying hidden relationships in between the variables

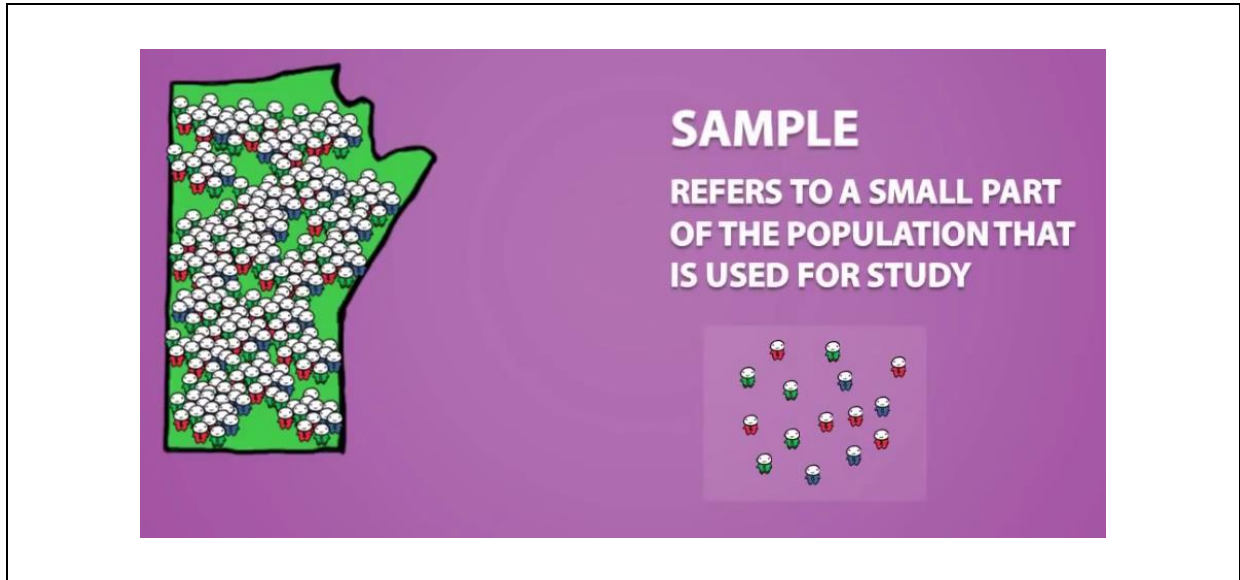
3. Population

- ✓ This point speaks about totality means all values or complete list of observations
- ✓ All the data points about the subject under study
 - It can be people, vehicles, sales, cats, houses & etc



4. Sample

- ✓ A sample is a subset of a population, usually a small portion of the population that is being analysed.

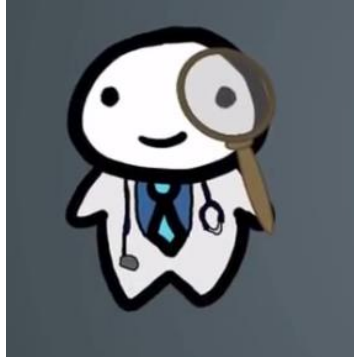


Info

- ✓ Usually, it is expensive to perform an analysis on an entire population.
- ✓ So, by analysing sample helps to draw the conclusions about a population.

5. Variable

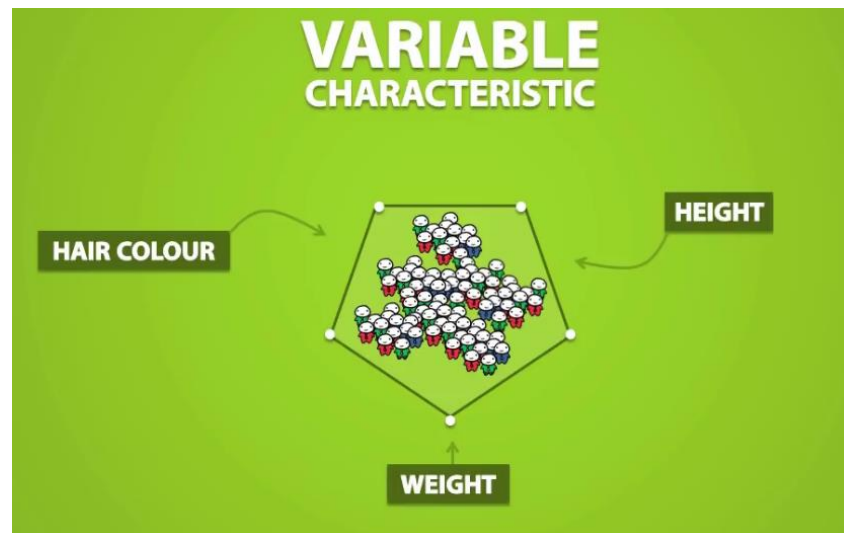
- ✓ In statistics what we are examining is a **variable**



- ✓ So, a variable is measurable, countable, categorized...

VARIABLE
WHAT WE ARE STUDYING
CATEGORIZED
•
COUNTABLE
•
MEASUREABLE
•
•
•

- ✓ People have different kind of heights, weights, and colors
- ✓ These are all variables



6. Variables means

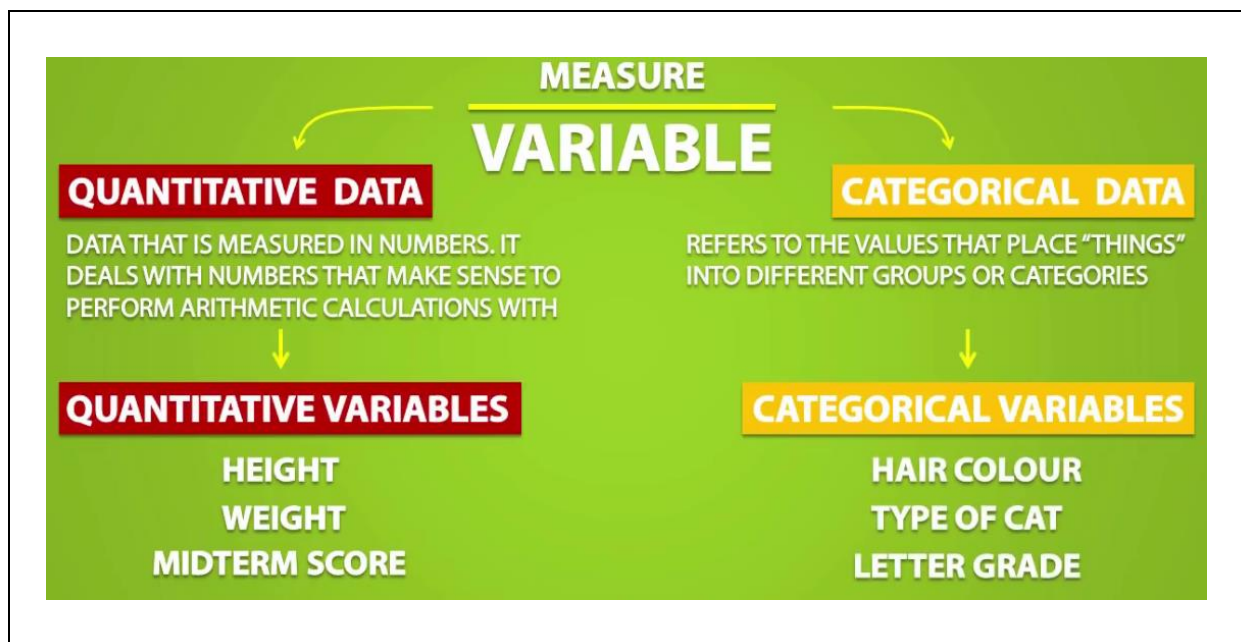
- ✓ Variable represent the characteristic representation of study.
- ✓ A variable is an attribute
- ✓ A variable has a value
- ✓ A variable can store any type of data

Example

✓ Person_name	=	Daniel
✓ Person_age	=	16
✓ Person_type	=	male
✓ Person_salary	=	16000
✓ Person_height	=	5.9

7. Types of variables

- ✓ Quantitative
 - Measured in numbers
- ✓ Categorical variable or Qualitative
 - Different group of categories



7.1. Quantitative variables

- ✓ **Quantitative** variables are **numeric**.
- ✓ We can do some kind of arithmetic calculations
- ✓ They represent a measurable quantity.
- ✓ Example
 - Height
 - Weight
 - Midterm score
 - Population of a city.
 - Salary and etc

7.2. Categorical or Qualitative variables

- ✓ **Categorical** variables stores values which are **names** or labels
- ✓ Example
 - Type of person : male or female
 - Review about food: good, bad, ok
 - Color of the bike : red, green, blue

8. Types of Categorical variable

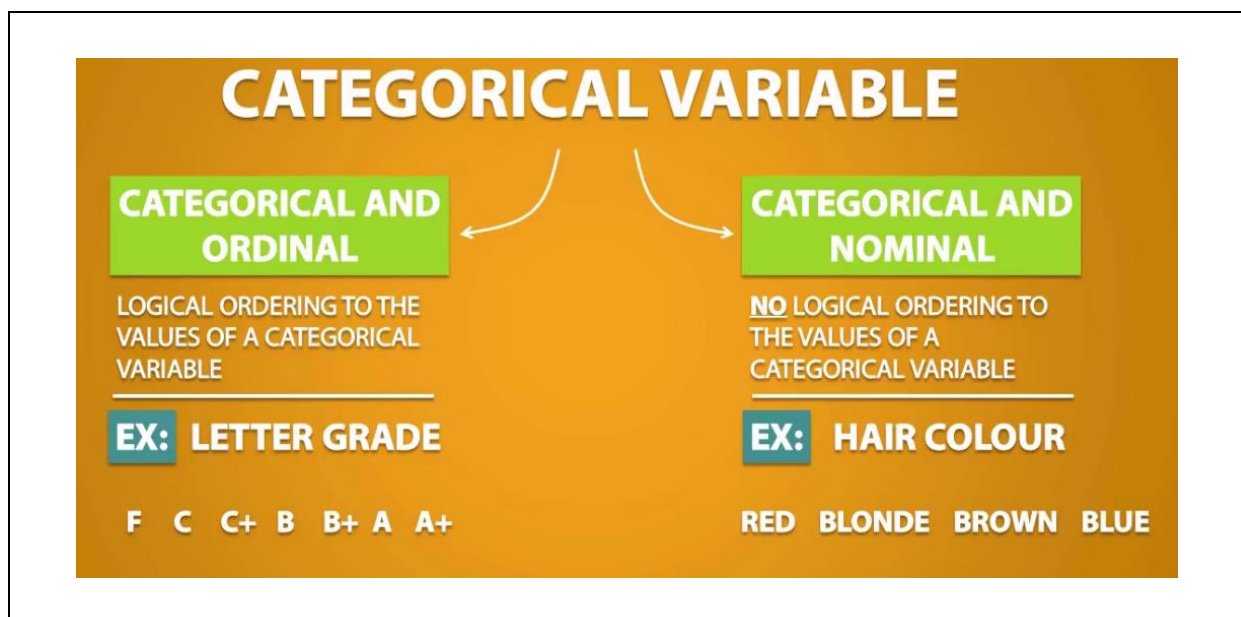
- ✓ There are two types of categorical variables
 - Ordinal
 - Nominal

8.1. Ordinal

- ✓ Logical order is possible to do analysis.
- ✓ We can logical order according to some dictionary format
- ✓ After this we can do some analysis
 - Example : Grades in exams

8.2. Nominal

- ✓ There is no logical ordering with respect to the actual values
 - Example : Hair color



9. Types of Quantitative variables

- ✓ Discrete variables
- ✓ Continuous variables

9.1. Discrete variables

- ✓ Discrete variables are like whole numbers.
- ✓ Example:
 - Number pets own
 - Number of people in a family
 - Number of bikes or cars

9.2. Continuous variables

- ✓ Continuous variables are like normal numbers includes floating point numbers.
- ✓ Example:
 - Weight
 - Salary
 - Bank balance

