# Sample Space

- Chance Outcome → They generally occur in a planned study or scientific investigation. They can be presented or interpreted.
- Numerical data → count or measure
- Categorical data → classified acc. to some criterion.
- Observation → any record of info. either categorical / numerical.
- Experiment → Any process that generates data. The experiment has some set of outcomes. Outcomes depends on chance, & can't be predicted with certainity.
- Be it any experiment, the outcome is always subject to uncertainity.
- Sample Space → set of all possible outcomes of a statistical experiment. It is represented as S.

Eg. $S = \{H, T\}$

set of all outcomes, of an experiment of tossing a coin.

- Tree Diag. → Useful method to list all the elements of a sample space.

- If the sample space has ∞ no. of outcomes, it is better to describe them as a statement or rule.

  Eg. $S = \{x \mid x$ is a city with pop > 4 million $\}$

- Sampling Plan → A statistical procedure that determines whether or not a 'set' of item is satisfactory. Eg. of such plan could be, to continue until you have k elements.