* Random variable

↳ A set of Possible values from a random experiment.

* Tossing a coin → Experiment is random,

↳ H, T

Outcomes will be random.

↓

Quantify these random values.

$$X = \begin{cases} 0 & \text{—— tail (T)} \\ 1 & \text{—— Head (H)} \end{cases}$$

$X = \{0, 1\}$

↑

random variable

↓

It can take any value from the set of values

* We have an experiment (tossing a coin)
* quantify each event $\{0, 1\}$
* this values is Random variable.

$$x + 5 = 10$$
$$x = 10 - 5 = x = 5$$

In Algebra, a variable value is fixed

$X = \{0, 1, 2, 3\}$

X could be 0, 1, 2, or 3 randomly

$X = \{1, 2, 3, 4, 5, 6\}$ → Sample Space

$P(X=1) = 1/6$

(Tossing a coin) $P(X=1) = 1/2 \longrightarrow \{0, 1\}$ (0 → tail, 1 → Head)


$P(x \leq 4)$