

Probability theory describes of occurrence of a particular outcome by using certain formal concepts.

Probability theory makes the use of and probability distributions to assess uncertain situations mathematically.

Probability can be defined as the number of outcomes divided by the of possible outcomes of an event.

There are two main approaches available to study probability theory. These are probability and probability.

A random experiment, in probability theory, can be defined as a trial that is repeated in order to get a well-defined set of possible outcomes.

Sample space can be defined as the set of all that result from conducting a random experiment. For example, the sample space of tossing a fair coin is {heads, tails}.

The types of events are given as follows:

- 1)
- 2)
- 3)
- 4)
- 5)

There are two types of random variables:

The probability of an event taking place will always lie between

$P(A | B)$. This represents the probability of event A given that event B has already occurred.

$E[X]$. It is also known as of the random variable.

Variance can be denoted as

- Addition Rule: where A and B are events.
- Complementary Rule:
- Independent events:
- Conditional probability: