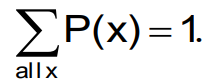
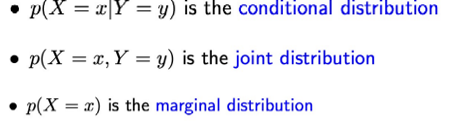
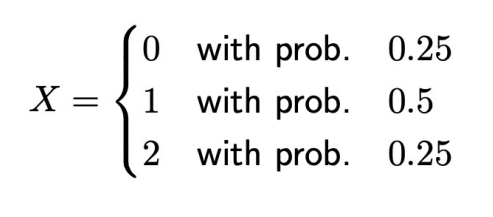
**Session 2 :**

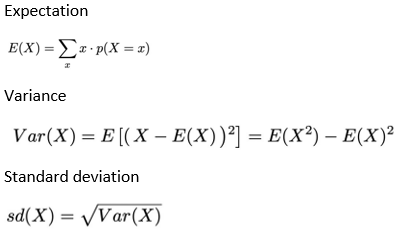
**Random variables**: numbers used to represent possible outcomes of an uncertain event.

The probability distribution of a discrete random variable X must satisfy the following two conditions.

* P(x)≥0 for all possible values x of a random variable X
* 

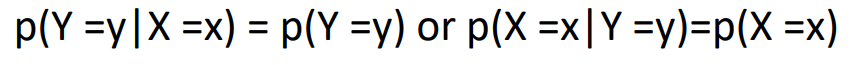
Ex:

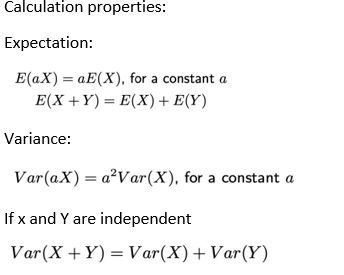


PDF:

CDF:

Two random variables are independent If :





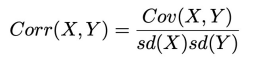
Covariance and correlation

**Covariance:**

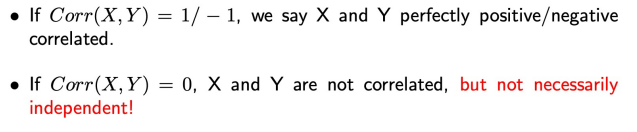
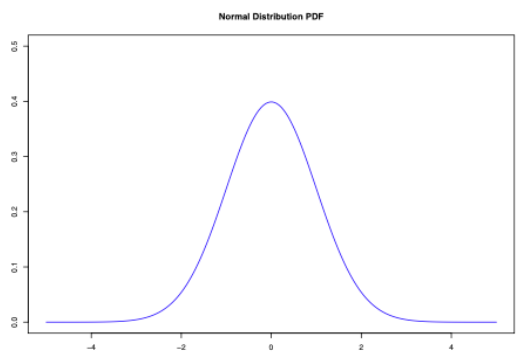




**Correlation:**

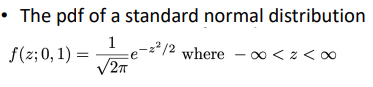




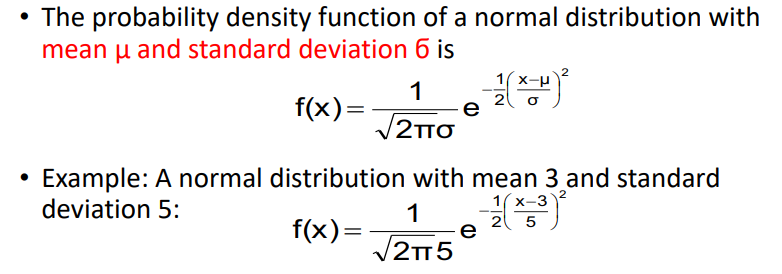


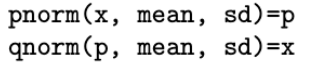
Normal distributions:

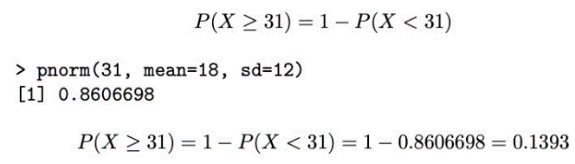
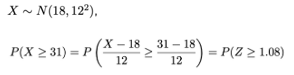




The PDF:







**Session 3 :**

**Bayes Theorem :**

