|  |  |
| --- | --- |
| **Term** | **Definition** |
| Conditional probability | The probability of an event (say ) occurring conditional to another event (say ) occurring prior; |
| Simple event | When an event can be broken down to a simple form |
| Continuous variable | A variable that takes a real value |
| Event | A set of outcomes from a single trail |
| Sample space | All possible outcomes |
| Set | A collection of events |
| Random variable | A variable that can take on different values randomly; can be discrete or continuous |
| Independent | When the outcome of one trial is not affected by any other trials; |
| Disjoint events | When events cannot occur at the same time; |
| Probability | The likelihood of an event happening over a number of independent repeats |

Probability distributions in R

* Norm denotes the normal distribution in R with mean equal to mean and standard deviation equal to sd. If mean and sd are not specified, they assume default values of 0 and 1 respectively.
* dnorm is the density mass function:
  + dnorm(x, mean = 0, sd = 1, log = FALSE)
* pnorm is the cumulative distribution:
  + pnorm(q, mean = 0, sd = 1, lower.tail = TRUE, log.p = FALSE)
* qnorm is quantile function
  + qnorm(p, mean = 0, sd = 1, lower.tail = TRUE, log.p = FALSE)
* rnorm is the random variate generator
  + rnorm(n, mean = 0, sd = 1)