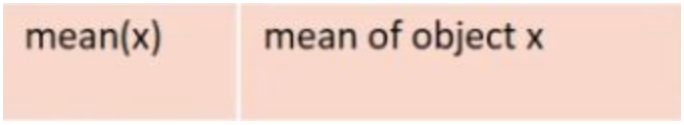
Now we will be learning about a couple of Statistical Function as well as Character Function and how to write down our own function.

Statistical Function:

Now we are learning the Statistical function in R. The first function which we will be talking now is the mean() function.

- **mean() function:** The function mean() is mainly used to calculate in R, it is calculated by taking the sum of the values and dividing with a number of values in data series. On the other word, mean() of an observation variable is a numerical measure of the central area of the data values.

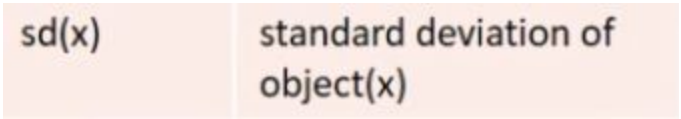


The keyword is “Univar”. Mean() function is the arithmetic average and is a common statistic used with ratio data. Mean can be calculated on an isolated variable via the mean(VAR) command. VAR is the name of the variable.

- **Median(x):** The middle most value in a data series is called Median. The median of an observation variable is the middle value when the data is sorted in ascending order.

It is an ordinal measure of the central area of the data values. This is a generic function where methods can be written. The median is called a reasonable concept for its default method, which will work for most classes.

- **Sd(x):** The Standard Deviation of an observation variable is a square root of its variance. This function computes the standard deviation of the values in x. If na.rm is TRUE therefore missing the values are removed before computation proceeds. In R Standard Deviations are calculated in the same as the mean.



The Standard Deviation of a single variable can be computed with the sd command, where VAR is the name of the variable. A Standard Deviation can be calculated for each of the variables in a dataset by using the SD (DATAVAR) command, where DATAVAR is the name of the variable containing the data.

- **Range(x):** The range of an observation variable is the difference between its largest and smallest data values. This is a measure of how far apart the entire data spread in value.

Range returns a vector which is containing the minimum and maximum of all the given arguments. The keyword is “:arith”, “Univar”. It is recommended that ranges also be computed on individual variables.

- **Sum(x):** Sum function in R is used to calculate the sum of vector elements.

sum(x)	sum

Sum returns the sum of all the values present in its arguments. These generic function methods can be defined for it directly or in via the summary group generic.

- **min(x):** min function computes the minimum value of a vector.

min(x)	minimum

A minimum can be computed on a single variable using the min (VAR) command.

- **max(x):** max function computes the maximum value of a vector.

max(x)	maximum

The maximum, via max(VAR), generates identically.

Character Function:

Now we will deal with some character variable. Suppose, you have your customer, customer's names, location and customer other attributes those are mainly character in nature. Lots of time we have to manipulate and clean the data before we use it in a model that's why we have no couple of simple example as well.

Here we discuss some inbuilt Character Function. Now we are talking about the first function which is tolower function.

- **Tolower():** It converts a string to lower case letter.

tolower()	convert a string to lower case letter

- **Toupper():** It converts a string actually uppercase letter.

toupper ()	convert a string to upper case letters

- **Substr(X,star=n1,stop=n2):** It extract or replace substrings in a character vector. How does it extract?

substr(*x*, start=*n1*, stop=*n2*)	Extract or replace substrings in a character vector.

It has a starting point and an ending point and it does on a top of X. It can also be used to overwrite a part of the character string.

- **Grep(pattern,x,ignore.case=FALSE):** It searches a pattern in X.

grep(*pattern*, *x* , ignore.case=FALSE)	Search for *pattern* in *x*.

Substr is actually extracting but this grep() actually find a particular pattern in each element of a vector x.

- **Sub(pattern,replacement,x,ignore.case=FALSE,Fixed=FAlse):** It finds a pattern in x and replaces with the replacement text. According to Sub, there is a little bit different between Sub and Gsub.

sub(*pattern*, *replacement*, *x*, ignore.case =FALSE, fixed=FALSE)	Find pattern in x and replace with replacement text.

Sub replaces only at the first place but Gsub replaces at all the places where ever it finds, it shows. All matches of a string replace by gsub() function.

- **Paste(...,sep=””):** In this function, you can paste two words or two letter.

paste(..., sep="")	Paste two character/Word

It converts its arguments to character strings and concatenates them.
This brings an end to this post, I encourage you to re read the post to understand it completely if you haven’t and THANK YOU.