Untitled

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## Arithematic Operations in R

arithematicOps = function(a,b){  
 print(paste("Addition: a+b = ", a+b));  
 print(paste("Multiplication: a\*b = ", a\*b));  
 print(paste("division: a/b = ", a/b));  
 print(paste("sqrt: a & b = ", sqrt(a), " ", sqrt(b)));  
 print(paste("power: a^b = ", a^b));  
 print(paste("exponent: a & b = ", exp(a), " ", exp(b)));  
 print(paste("log: a & b = ", log(a), " ", log(b)));  
 print(paste("factorial: a & b = ", factorial(a), " ", factorial(b)));  
}  
  
arithematicOps(10,25)

## [1] "Addition: a+b = 35"  
## [1] "Multiplication: a\*b = 250"  
## [1] "division: a/b = 0.4"  
## [1] "sqrt: a & b = 3.16227766016838 5"  
## [1] "power: a^b = 1e+25"  
## [1] "exponent: a & b = 22026.4657948067 72004899337.3859"  
## [1] "log: a & b = 2.30258509299405 3.2188758248682"  
## [1] "factorial: a & b = 3628800 1.5511210043331e+25"

arithematicOps(c(1,2),25)

## [1] "Addition: a+b = 26" "Addition: a+b = 27"  
## [1] "Multiplication: a\*b = 25" "Multiplication: a\*b = 50"  
## [1] "division: a/b = 0.04" "division: a/b = 0.08"  
## [1] "sqrt: a & b = 1 5" "sqrt: a & b = 1.4142135623731 5"  
## [1] "power: a^b = 1" "power: a^b = 33554432"  
## [1] "exponent: a & b = 2.71828182845905 72004899337.3859"  
## [2] "exponent: a & b = 7.38905609893065 72004899337.3859"  
## [1] "log: a & b = 0 3.2188758248682"   
## [2] "log: a & b = 0.693147180559945 3.2188758248682"  
## [1] "factorial: a & b = 1 1.5511210043331e+25"  
## [2] "factorial: a & b = 2 1.5511210043331e+25"

arithematicOps(c(1,2),c(25))

## [1] "Addition: a+b = 26" "Addition: a+b = 27"  
## [1] "Multiplication: a\*b = 25" "Multiplication: a\*b = 50"  
## [1] "division: a/b = 0.04" "division: a/b = 0.08"  
## [1] "sqrt: a & b = 1 5" "sqrt: a & b = 1.4142135623731 5"  
## [1] "power: a^b = 1" "power: a^b = 33554432"  
## [1] "exponent: a & b = 2.71828182845905 72004899337.3859"  
## [2] "exponent: a & b = 7.38905609893065 72004899337.3859"  
## [1] "log: a & b = 0 3.2188758248682"   
## [2] "log: a & b = 0.693147180559945 3.2188758248682"  
## [1] "factorial: a & b = 1 1.5511210043331e+25"  
## [2] "factorial: a & b = 2 1.5511210043331e+25"

## Including Plots

# line by Line Execution of command - Compiler

# Not explicitly declaring variables.

#A = 10 #Variable /Object – > A (Case Sensitive) #Value = 10 #Read from right to left. # <- or = # Assignment. # Simple Mathematical Operations. # Remove the objects or variables created.

# DATA TYPES. (Nominal , Ordinal, Interval and Ratio)

# Self (NOIR) and System (Numeric, Character, Logical, Date, Vector). (Two Brains).

# DATA TYPES

x = 10  
class(x)

## [1] "numeric"

# Numeric - Integer and Decimal - (R)- Integer (Whole Number) and Numeric (Float - Decimal)

i = 5L # L - Integer  
class(i)

## [1] "integer"

is.integer(i)

## [1] TRUE

is.numeric(x)

## [1] TRUE

# Character - Categorical Variable - Words/String (Nominal), Classification (Gender - Male , Female)

s = "R\_Studio"  
class(s)

## [1] "character"

# Levels of Classification - Factor — Involves levels.(Ordinal)

# Eg: Edu Quali - X, XII, Graduation, Post Graduation (4 Levels)

# Logical - TRUE (1) and FALSE (0)

TRUE \* 5

## [1] 5

FALSE \* 5

## [1] 0

K = TRUE  
class(K)

## [1] "logical"

is.logical(K)

## [1] TRUE

# Date - Starting Date (1970) - Numeric Value.

# In R - 1 Jan 1970

# Date - mm/dd/yyyy

# POSIXct - Date plus Time.

# as.Date()# Auto complete # How to enter

# ? as.Date # help

#POSIXct - Date and Time

date1 = as.Date("2012-06-28")  
date1

## [1] "2012-06-28"

class (date1)

## [1] "Date"

as.numeric(date1)

## [1] 15519

date2 = as.POSIXct("2012-06-28 17:42")  
date2

## [1] "2012-06-28 17:42:00 IST"

class(date2)

## [1] "POSIXct" "POSIXt"

as.numeric(date2)

## [1] 1340885520