**Experiment No:** 1

**Experiment Name:** To perform the basic mathematical operations in R programming.

**Name:** Saitwal Sagar Madan

**Roll No:** 113

**R Script:-**

#Assignment

s <- 10

print(s)

#case sensitive

a <- 5

b <- 2

c <- 1

print(a+B+c)

#Arithmetic Operations

#creation of vector

a <- c(10, 20, 30, 40, 50)

b <- c(1, 2, 3, 4, 5)

print(a)

print(b)

#Addition of tow vector

Result <- a+b

print(Result)

#Subtraction of tow vector

Result <- a-b

print(Result)

#Multiplication of tow vector

Result <- a\*b

print(Result)

#Division of tow vector

Result <- a/b

print(Result)

#options()

1/7#by default it will show 7 digits output.

options(digits = 3)#by using this it will show only 3 digits after decimal point

1/7

#Miscellaneous Mathematical functions

x<-20

abs(x) #Absolute Value

sqrt(x) #square root

exp(x) #exponential transformation

log(x) #logarithmic transformation

cos(x) #cosine and other trigonometric transformation

#infinite and Nan Number

y<-5

z<-6

ls() #List all object

exists("y") #identify R object with 'y' name

rm(y) #remove object.

rm(y,z) #remove multiple object.

rm(list=ls()) #remove everything on working environment.

**OUTPUT-**

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| --- |
| > #Assignment  > s <- 10  > print(s)  [1] 10  >  > #case sensitive  > a <- 5  > b <- 2  > c <- 1  > print(a+B+c)  Error in print(a + B + c) : object 'B' not found  >  > #Arithmetic Operations  > #creation of vector  >  > a <- c(10, 20, 30, 40, 50)  > b <- c(1, 2, 3, 4, 5)  > print(a)  [1] 10 20 30 40 50  > print(b)  [1] 1 2 3 4 5  >  > #Addition of tow vector  > Result <- a+b  > print(Result)  [1] 11 22 33 44 55  >  > #Subtraction of tow vector  > Result <- a-b  > print(Result)  [1] 9 18 27 36 45  >  > #Multiplication of tow vector  > Result <- a\*b  > print(Result)  [1] 10 40 90 160 250  >  > #Division of tow vector  > Result <- a/b  > print(Result)  [1] 10 10 10 10 10  >  > #options()  > 1/7#by default it will show 7 digits output.  [1] 0.1428571  >  > options(digits = 3)#by using this it will show only 3 digits after decimal point  > 1/7  [1] 0.143  >  > #Miscellaneous Mathematical functions  >  > x<-20  > abs(x) #Absolute Value  [1] 20  > sqrt(x) #square root  [1] 4.47  > exp(x) #exponential transformation  [1] 4.85e+08  > log(x) #logarithmic transformation  [1] 3  > cos(x) #cosine and other trigonometric transformation  [1] 0.408  >  > #infinite and Nan Number  > y<-5  > z<-6  >  > ls() #List all object  [1] "a" "b" "c" "Result" "s" "x" "y" "z"  > exists("y") #identify R object with 'y' name  [1] TRUE  > rm(y) #remove object.  > rm(y,z) #remove multiple object.  Warning message:  In rm(y, z) : object 'y' not found  > rm(list=ls()) #remove everything on working environment. |
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