ca05\_partA\_10125852.R

InSun Ahn

Sun May 14 10:21:40 2017

# Data Analytics Group 1  
# 10125852 InSun Ahn  
  
# CA05 - PART A   
# Calculator Program  
  
  
# Function 1 - compute summation of two values/vectors.  
my\_addition <- function(x,y) {  
 x + y  
}  
  
# Function 2 - compute subtraction of two values/vectors.  
my\_subtraction <- function(x,y){  
 x - y  
}  
  
# Function 3 - compute multiplication of two values/vectors.  
my\_multiplication <- function(x,y){  
 x \* y  
}  
  
# Function 4 - compute division of two values/vectors.  
my\_division <- function(x,y){  
 x / y  
}  
  
# Function 5 - compute exponentiation(power) base = x, exponent = y  
my\_power <- function(x,y){  
 x\*\*y  
}  
  
# Function 6 - compute square root of a value/vector.  
my\_sqrt <- function(x){  
 sqrt(x)  
}  
  
# Trigonometric Functions 7-9  
## Function 7 - Sine  
my\_sin <- function(x){  
 sin(x)  
}  
## Function 8 - Cosine  
my\_cos <- function(x){  
 cos(x)  
}  
## Function 9 - Tangent  
my\_tan <- function(x){  
 tan(x)  
}  
  
# Function 10 - Compute logarithms of a value/vector x and base = y.   
my\_log <- function(x, y){  
 logb(x, base = y)  
}  
  
  
# Define variables for sample values/vectors for testing above functions.  
a = 7  
b = 5  
c <- c(1, 2, 3, 4)  
d <- c(5, 6, 7, 8)  
  
# Apply above functions to sample values/vectors.  
my\_addition(a, b)

## [1] 12

my\_addition(c, d)

## [1] 6 8 10 12

my\_subtraction(a, b)

## [1] 2

my\_subtraction(c, d)

## [1] -4 -4 -4 -4

my\_multiplication(a, b)

## [1] 35

my\_multiplication(c, d)

## [1] 5 12 21 32

my\_division(a, b)

## [1] 1.4

my\_division(c, d)

## [1] 0.2000000 0.3333333 0.4285714 0.5000000

my\_power(a, b)

## [1] 16807

my\_power(c, d)

## [1] 1 64 2187 65536

my\_sqrt(25)

## [1] 5

my\_sqrt(c)

## [1] 1.000000 1.414214 1.732051 2.000000

my\_sin(b)

## [1] -0.9589243

my\_sin(d)

## [1] -0.9589243 -0.2794155 0.6569866 0.9893582

my\_cos(a)

## [1] 0.7539023

my\_cos(c)

## [1] 0.5403023 -0.4161468 -0.9899925 -0.6536436

my\_tan(b)

## [1] -3.380515

my\_tan(d)

## [1] -3.3805150 -0.2910062 0.8714480 -6.7997115

my\_log(100, 10)

## [1] 2

my\_log(125, 5)

## [1] 3

my\_log(b, a)

## [1] 0.8270875

my\_log(d, c)

## [1] Inf 2.584963 1.771244 1.500000