

assignment_1_solution

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```
# Create a vector c = [5,10,15,20,25,30] and write a program  
# which returns the maximum and minimum of this vector.  
num<-c(5,10,15,20,25,30)  
print('Original vector is:')
```

```
## [1] "Original vector is:"
```

```
print(num)
```

```
## [1] 5 10 15 20 25 30
```

```
print(paste('Minimum value of vector is : ',min(num)))
```

```
## [1] "Minimum value of vector is : 5"
```

```
print(paste('Maximum value of vector is : ',max(num)))
```

```
## [1] "Maximum value of vector is : 30"
```

```
# Write a program in R to find factorial of a number by taking input from user.  
# Please print error message if the input number is negative.
```

```
num <- 5  
factorial <- 1  
if(num<0){  
  print('Sorry, factorial of this number doesnt exist')  
} else if(num==0){  
  print('Factorial of 0 is 1')  
} else{  
  for(i in 1:num){  
    factorial <- factorial*i  
  }  
  print(paste('Factorial of given number is:', factorial))  
}
```

```
## [1] "Factorial of given number is: 120"
```

```
# Write a program to write first n terms of a Fibonacci sequence.  
# You may take n as an input from the user.
```

```
num <- 5  
n1<-0  
n2<-1  
count<-2  
if(num<=0){  
  print('Please enter positive number')  
} else{  
  if(num==1){  
    print('Fibonacci Series:')  
    print(n1)  
  }  
  else{  
    print('Fibonacci Series:')  
    print(n1)  
    print(n2)  
    while(count<num){  
      nth <- n1+n2  
      print(nth)  
      n1<-n2  
      n2<-nth  
      count<-count+1  
    }  
  }  
}
```

```
## [1] "Fibonacci Series:"  
## [1] 0  
## [1] 1  
## [1] 1  
## [1] 2  
## [1] 3
```

```
# Write an R program to make a simple calculator which can add,  
# subtract, multiply and divide.
```

```
add <- function(x,y){  
  return(x+y)  
}  
subtract <- function(x,y){  
  return(x-y)  
}  
multiply <- function(x,y){  
  return(x*y)  
}  
divide <- function(x,y){  
  return(x/y)  
}  
print('Select operation:')
```

```
## [1] "Select operation:"
```

```
print('1.Add')
```

```
## [1] "1.Add"
```

```
print('2.Subtract')
```

```
## [1] "2.Subtract"
```

```
print('3.Multiply')
```

```
## [1] "3.Multiply"
```

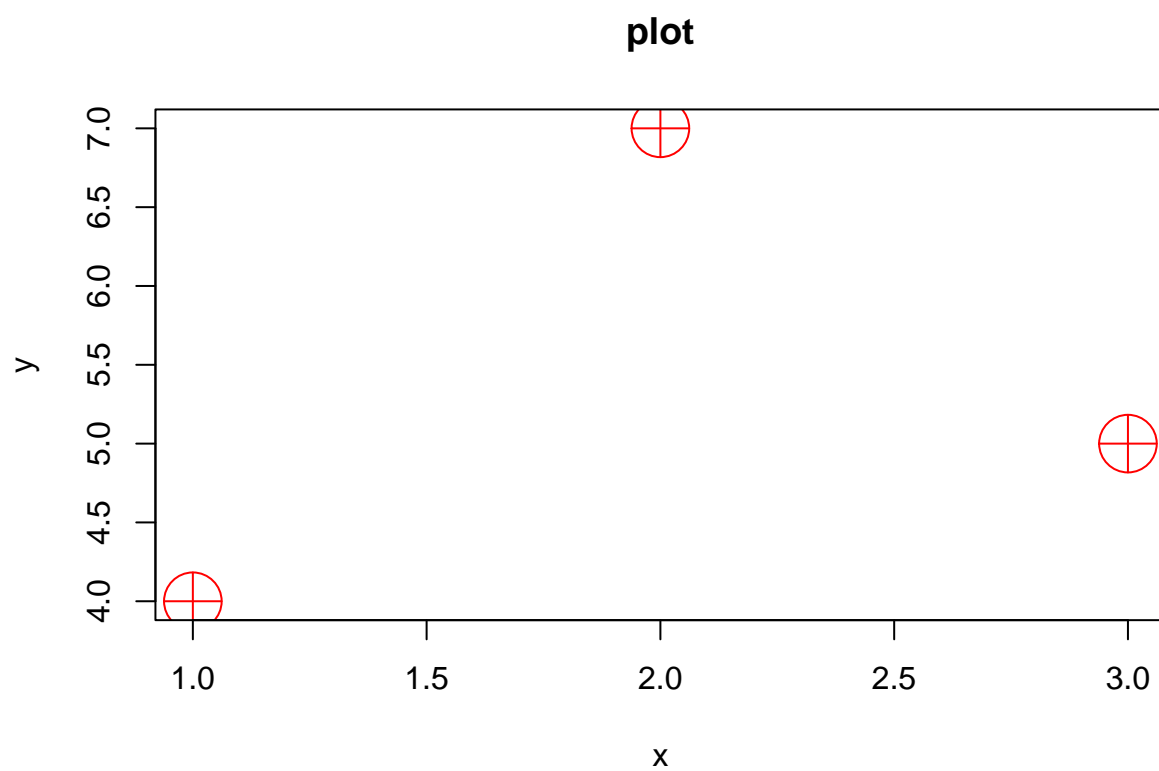
```
print('4.Divide')
```

```
## [1] "4.Divide"
```

```
choice <- 3
num1 <- 4
num2 <- 11
operator <- switch(choice, '+', '-', '*', '/')
result <- switch(choice, add(num1,num2), subtract(num1,num2), multiply(num1,num2), divide(num1,num2))
print(paste(num1,operator,num2,'=',result))
```

```
## [1] "4 * 11 = 44"
```

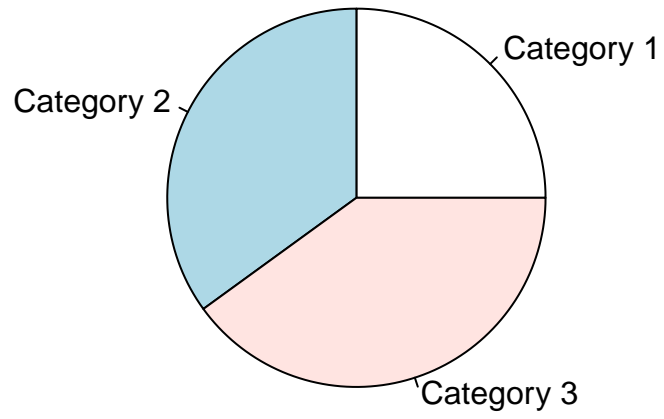
```
# Explore plot, pie, barplot (the plotting options) which are built-in functions in R.
x=c(1,2,3)
y=c(4,7,5)
plot(x,y,xlab="x",ylab="y",main="plot",col="red",cex=4,pch=10)
```



```
categories <- c("Category 1", "Category 2", "Category 3")
values <- c(25, 35, 40)

pie(values, labels = categories, main = "Pie Chart")
```

Pie Chart



```
barplot(values, names.arg = categories, main = "Bar Plot", xlab = "Categories", ylab = "Values")
```

