

Create a vector `c = [5, 10, 15, 20, 25, 30]` and write a program which returns the maximum and minimum of this vector

```
1 c = c(5, 10, 15, 20, 25, 30)
2 max_c = max(c)
3 min_c = min(c)
```

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

```
1 factorial = function(n){
2   if (n < 0){
3     print("Error: Factorial of negative number is not defined")
4   } else if (n == 0){
5     return(1)
6   } else {
7     return(n*factorial(n-1))
8   }
9 }
10
11 n = as.integer(readline(prompt = "Enter a number: "))
```

Write a program to write first n terms of a Fibonacci series. You may take n as input from the user.

```
1 fibonacci = function(n){
2   if (n == 1){
3     return(0)
4   } else if (n == 2){
5     return(1)
6   } else {
7     return(fibonacci(n-1) + fibonacci(n-2))
8   }
9 }
10
11 n = as.integer(readline(prompt = "Enter a number: "))
```

Write an R program to make a simple calculator which can perform addition, subtraction, multiplication and division.

```

1  calculator = function(a, b, operator){
2    if (operator == "+"){
3      return(a+b)
4    } else if (operator == "-"){
5      return(a-b)
6    } else if (operator == "*"){
7      return(a*b)
8    } else if (operator == "/"){
9      return(a/b)
10   } else {
11     return("Invalid operator")
12   }
13 }
14
15 a = as.integer(readline(prompt = "Enter first number: "))
16 b = as.integer(readline(prompt = "Enter second number: "))
17
18 operator = readline(prompt = "Enter operator: ")
19
20 result = calculator(a, b, operator)
21 print(result)

```

Explore `plot`, `pie`, `barplot` etc.

```

1  # Plot
2  x = c(1, 2, 3, 4, 5)
3  y = c(1, 4, 9, 16, 25)
4
5  plot(x, y, type = "o", col = "blue")
6
7  # Pie
8  slices = c(10, 12, 4, 16, 8)
9  lbls = c("US", "UK", "India", "Germany", "Australia")
10
11 pie(slices, labels = lbls, main = "Pie Chart of Countries")
12
13 # Barplot

```

```
14 height = c(100, 200, 300, 400, 500)
15 names = c("A", "B", "C", "D", "E")
16
17 barplot(height, names.arg = names, col = "blue")
```