1. Write a R program to create a vector of a specified type and length. Create vector of numeric, complex, logical and character types of length 6 with your own examples. print the vector, type, and length.

Use this vector for Below program

x = c(10, 20, 30, 20, 20, 25, 9, 26,38,40)

CODE:

```
> x<-c(10,20,30,20,20,25,9,26,38,40)
> typeof(x)
[1] "double"
> length(x)
[1] 10
> x = vector("numeric", 5)
> print("Numeric Type:")
[1] "Numeric Type:"
> print(x)
[1] 0 0 0 0 0
> c = vector("complex", 5)
> print("Complex Type:")
[1] "Complex Type:"
> print(c)
[1] 0+0i 0+0i 0+0i 0+0i 0+0i
> l = vector("logical", 5)
> print("Logical Type:")
[1] "Logical Type:"
> print(l)
[1] FALSE FALSE FALSE FALSE FALSE
> chr = vector("character", 5)
> print("Character Type:")
[1] "Character Type:"
> print(chr)
[1] "" "" "" "" ""
```

2. Write a R program to find Sum, 3)   Vector.

CODE:

```
> x<-c(22,43,77,33)
> sum(x)
[1] 175
> mean(x)
[1] 43.75
> prod(x)
[1] 2403786
```

3. Write a R program to find the minimum and the maximum of a Vector.

CODE:

```
> x<-c(10,44,33,77)
> min(x)
```

[1] 10
> max(x)
[1] 77

4. Write a R program to find second highest value in a given vector.

CODE:

```
> x<-c(36,48,22,95,47)
> l<-length(x)
> sort(x,partial=l-1)[l-1]
[1] 48
```

5. Write a R program to add a new item g4 = "C++" to a given list.

Sample list: (g1 = 5:10, g2 = "R Programming", g3 = "HTML").

CODE:

```
> list<-list(g1=5:10,g2="R Programming",g3="HTML")
> list$g4="C++"
> list
$g1
[1]  5 6 7 8 9 10

$g2
[1] "R Programming"

$g3
[1] "HTML"

$g4
[1] "C++"
```

6. Write a R program to extract all elements except the third element of

The first vector of a given list.

Sample list: (g1 = 5:10, g2 = "R Programming, g3 = "HTML")

CODE:

```
> list<-list(g1=5:10,g2="R Programming",g3="HTML")
> list$g1=list$g1[-3]
> list$g1
[1]  5 6 8 9 10
```

7. Write a R program to create an ordered factor from data consisting of

The names of months

```
mons_v = c("March","April","January","November","January",
"September","October","September","November","August","February",
"January","November","November","February","May","August","February","July","December","August","
August","September","November","September","February","April")
```

CODE:

```
> mons_v = c("March","April","January","November","January",
+       "September","October","September","November","August","February",
+       "January","November","November","February","May","August","February",
+       "July","December","August","August","September","November","September",
+       "February","April")
> f<-factor(mons_v)
> f
 [1] March     April     January   November  January   September
 [7] October   September November  August    February  January
[13] November  November  February  May       August    February
[19] July      December  August    August    September November
[25] September February  April
11 Levels: April August December February January ... September

> table(f)
f
    April    August  December  February   January      July
        2         4         1         4         3         1
    March       May  November   October September
        1         1         5         1         4
```