**ASSESMENT DAY 1**

Set (1)

**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.**

**INPUT**

x = vector("numeric", 7)

print("Numeric Type:")

print(x)

c = vector("complex", 7)

print("Complex Type:")

print(c)

l = vector("logical", 7)

print("Logical Type:")

print(l)

chr = vector("character", 7)

print("Character Type:")

print(chr)

**OUTPUT**

[1] "Numeric Type:"

[1] 0 0 0 0 0

[1] "Complex Type:"

[1] 0+0i 0+0i 0+0i 0+0i 0+0i

[1] "Logical Type:"

[1] FALSE FALSE FALSE FALSE FALSE

[1] "Character Type:"

[1] "" "" "" "" ""

**2. x = c(10, 20, 30 ) Write a R program to find Sum, Mean and Product of a Vector.**

**INPUT**

x = c(10, 20, 30)

print("Sum:")

print(sum(x))

print("Mean:")

print(mean(x))

print("Product:")

print(prod(x))

**OUTPUT**

[1] "Sum:"

[1] 60

[1] "Mean:"

[1] 20

[1] "Product:"

[1] 6000

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

**INPUT**

x = c(9,8,7,12,18,29)

print("Original Vectors:")

print(x)

print("Maximum value of the above Vector:")

print(max(x))

print("Minimum value of the above Vector:")

print(min(x))

**OUTPUT**

[1] "Original Vectors:"

[1] 9 8 7 12 18 29

[1] "Maximum value of the above Vector:"

[1] 29

[1] "Minimum value of the above Vector:"

[1] 7

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

**INPUT**

x = c(15,20,50,25,40,30)

print("Original Vectors:")

print(x)

print("Find second highest value in a given vector:")

l = length(x)

print(sort(x, partial = l-1)[l-1])

**O/P**

[1] "Original Vectors:"

[1] 15 20 50 25 40 30

[1] "Find second highest value in a given vector:"

[1] 40

**5. Write a R program to add a new item g4 = &quot;C++&quot; to a given list. Sample list: (g1 = 5:10, g2 = &quot;R Programming&quot;, g3 = &quot;HTML&quot;)**

**INPUT**

list1 = list(g1 = 1:10, g2 = "R Programming", g3 = "HTML")

print("Original list:")

print(list1)

print("Add a new vector to the said list:")

list1$g4 = "c++"

print(list1)

**OUTPUT**

[1] "Original list:"

$g1

[1] 1 2 3 4 5 6 7 8 9 10

$g2

[1] "R Programming"

$g3

[1] "HTML"

[1] "Add a new vector to the said list:"

$g1

[1] 1 2 3 4 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 = &quot;R Programming&quot;, g3 = &quot;HTML&quot;)**

**Syntax**

list1 = list(g1 = 1:10, g2 = "R Programming", g3 = "HTML")

print("Original list:")

print(list1)

print("First vector:")

print(list1$g1)

print("First vector without third element:")

list1$g1 = list1$g1[-3]

print(list1$g1)

**O/P**

[1] "Original list:"

$g1

[1] 1 2 3 4 5 6 7 8 9 10

$g2

[1] "R Programming"

$g3

[1] "HTML"

[1] "First vector:"

[1] 1 2 3 4 5 6 7 8 9 10

[1] "First vector without third element:"

[1] 1 2 4 5 6 7 8 9 10

**7. Write a R program to create an ordered factor from data consisting of the names of months mons\_v = c(&quot;March&quot;,&quot;April&quot;,&quot;January&quot;,&quot;November&quot;,**

**&quot;January&quot;, &quot;September&quot;,&quot;October&quot;,&quot;September&quot;,&quot;November&quot;,&quot;August&quot;,&quot;February&quot;,**

**&quot;January&quot;,&quot;November&quot;,&quot;November&quot;,&quot;February&quot;,&quot;May&quot;,&quot;August&quot;,&quot;February&quot;,&quot;July&quot;,&quot;December&quot;,**

**&quot;August&quot;,&quot;August&quot;,&quot;September&quot;,&quot;November&quot;,&quot;September&quot;,&quot;February&quot;,&quot;April&quot;)**

**INPUT**

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")

print("Original vector:")

print(mons\_v)

f = factor(mons\_v)

print("Ordered factors of the said vector:")

print(f)

print(table(f))

**OUTPUT**

[1] "Original vector:"

[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"

[1] "Ordered factors of the said vector:"

[1] March April January November January September October

[8] September November August February January November November

[15] February May August February July December August

[22] August September November September February April

11 Levels: April August December February January July March May ... September

f

April August December February January July March May

2 4 1 4 3 1 1 1

November October September

5 1 4