Lab Assignment - 1 (IA1 - DOS -> 18.01.2022) DATE : 16.1.22

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# Handwritten Code for IA1

Q1 :

```
Employees = data.frame(Name = c("a", "b", "c", "d", "e",
"f", "g", "h", "i", "j"), Gender = c("M", "F",
"M", "F", "M", "M", "F", "M", "F", "F"), Age =
c(23, 34, 45, 41, 22, 24, 28, 31, 29, 36),
Designation = c("Clerk", "Manager", "Executive",
"CEO", "Assistant", "Programmer", "Manager", "Executive",
"deputy CEO", "Chairman"), SSN = c("1", "2",
"3", "4", "5", "6", "7", "8", "9", "10")

print(paste("Summary of the data :"))
print(summary(Employees))
```

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Q2 :

```
name = "Jonathan Rufus SAMUEL"
n1 = 10
n2 = 0.5
n3 = -4.56
numbers = c(10, 20, 30, 40, 50, 60)
print(ls())
print("Details of 5 objects are as follows :")
print("ls.str")
```

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Q3)

```
num = as.integer(readline(prompt = "Enter number for corresponding times table"));
for (i in 1:15)
{
  print(paste(num, "x", i, "=", num*i))
}
```

Q4:

```
name = "Jonathan Rufus Samuel"
p1 = "Data"
p2 = "Visualization"
p3 = "Data Visualization"
for (i in 1:100)
{
  if (i%%2 == 0 && i%%4 == 0) print(paste(i, "=", p3))
else if (i%%2 ==0) print(paste(i, "=", p1))
 else if (i%%4 == 0) print(paste(i, "=" p2))
}else {print(paste(i))}
```

Q5:

```
sum = 0
product = 1
a = c()
a = 1:15
print(a)
m = as.integer(readline(prompt = "Enter a number m"))
for (i in a)
{
  sum = sum + i
  product = product * i
  if (i%%m ==0)
  {
    print(i)
  }
}
```

```
mean = sum / length(a)
print (paste ("Sum: ", sum))
print (paste ("Product: ", product))
print (paste ("Mean: ", mean))
```

Q6:

```
vector1 = c(NA, NA, NA, NA, NA)
vector2 = c (NA, NA, NA, NA, NA)
arr = array (c(vector1, vector2), dim = c (5,5))
print (arr)
for (i in 1:5)
{
    for (j in 1:5)
    {
        x = abs(j-i)
        arr [i, j] = x
    }
}
Print(arr)
```

Q7:

```
x = 5
while (x > 5)
{
    a = fbon (runif (1, min = 2, max = 13))
    b = fbon (runif (1, min = 2, max = 13))
    print ("Answer the given question:")
    print (paste (a, "x", b, "=?"))
    ans = as.integer (readline())
    if ((a*b) == ans)
    {
        print ('Correct!')
        x = x-1
    }
    else { print ('Wrong!') } }
```

Q8:

```
coin = c('heads', 'tails')
flip = sample(coin, size = 20, replace = True)
ans = vector(length = 0, mode = "integer")
for (i in flip)
{ ans = c(ans, i)
}
print(ans)
```

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Q9:

```
for (i in 0:100)
{ x = i*i
  if (x > 4000)
  { print('First positive Integer whose square exceeds 4000: ')
    print(paste(i, "Square", x))
  }
}
```

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Q10:

```
x= vector("numeric", 6)
print("Numeric Vector:")
print(x)
c = vector("complex", 6)
print("Complex Vector:")
print(c)
I = vector("logical", 6)
print("logical Vector:")
print(I)
chr = vector("character", 6)
print("Character Vector:")
print(chr)
```

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