```r
# START PROGRAMMING

# Open a text file to type code
# Copy and paste code in R prompt

# Use of 'for' loop

a = c()

for (i in 1:10)
   {
     a[i] = mean(rpois(50,1))
   }

a

# 'for' loop operations on matrices

A = matrix(, 5, 3)
for (i in 1:5)
   {
     for (j in 1:3)
        {
          A[i,j] = mean(rpois(5000,i))
        }
   }

A
```

```
# Use of 'while'

# Find smallest integer whose factorial is
# greater than 987654

n = 1

while (factorial(n) <= 987654)
   {
      n = n + 1
   }

n

# Pretend that you do not know 'while'.
# You can use 'for' loop as follows:

n = 1

for (i in 1:100)
   {
      n = n + 1
      if (factorial(n) > 987654)
         break
   }

n
```

```r
# WRITING YOUR OWN R FUNCTIONS

# Write a function to calculate CV

cv = function(x)
      {100*sd(x)/mean(x)}

# For clear view:

cv = function(x)
      {
        100*sd(x)/mean(x)
      }


# Test the function

class(cv)

u = rnorm(10000,10,2)

cv(u)
```