1)function example

a)

```
acadgild<-function()
{
c=2
print(c)
}
acadgild()
```

In the above example we call the function without passing any arguments value is specified inside the function body

```
acadgild<-function()
{
  c=2
  print(c)
}
acadgild()
] 2
```

b)

```
acadgild<-function(a,b)
{
a=a*2
b=b*3
c(a,b)
}
acadgild(2,4)
```

acadgild(b=5,a=3)

```
> acadgild<-function(a,b)
+ {
+   a=a*2
+   b=b*3
+   c(a,b)
+ }
> acadgild(b=5,a=3)
[1]  6 15
> acadgild(2,4)
[1]  4 12
>
```

in the above example we call the function by passing the arguments based on position of arguments and we call thefunction by passing the arguments bases on name.

SO THESE ARE THE WAYS OF CALLING A FUNCTION IN R

2)Recycling of elements means it repeats or recycles elements of vector with lesser elements whenever involved in an process or operation.

3)example for recycling

a)

x <- c(1,2,3)

y <- c(4,5,6,7,8)

r<-x+y

output: it repeats 1,2 to add with 7,8 of vector y

5,7,9,8,10 with a warning message that says longer object length is not a multiple of shorter object length

```
> x <- c(1,2,3)
> y <- c(4,5,6,7,8)
> r<-x+y
Warning message:
In x + y : longer object length is not a multiple of shorter object length
> r
[1]  5  7  9  8 10
>
```

b)

t<-matrix(1:6,dim<-c(2,3))

j<-c(2,3)

k<-t+j

k

output: it repeats 2,3 twice from vector to add with 3,4,5,6 of matrix t

3 5 7 5 7 9

```
t<-matrix(1:6,dim<-c(2,3))
j<-c(2,3)
k<-t+j
k
     [,1] [,2] [,3]
[1,]    3    5    7
[2,]    5    7    9
```

4)output of following script

v<-c(2,5.5,6)

t<-c(8,3,4)

print(v%/%t) here we divide v with t and get the quotient o/p is:(0 1 1)

```
v<-c(2,5.5,6)
t<-c(8,3,4)
print(v%/%t)
1] 0 1 1
print(t%/%v)
1] 4 0 0
```

5)i have created 10 excel files with different data and read that using the for loop and then created a data frame from that.

```
for(j in 1)

{

  jjj<-list()

  for(i  in 1:4)

  {

    excel<- list.files(pattern='*.xlsx')

    for(k in 1)

    {

      g<-list(excel(file.list[[i]],1,header=TRUE))

    }


    jjj[i]<-list(g[[k]])

  }

  p<-as.data.frame(jjj)

  print(p)
```

```
excel
[1] "first_1.xlsx"    "first_10.xlsx"   "first_2.xlsx"    "first_3.xlsx"    "first_4.x
sx"
[6] "first_5.xlsx"    "first_6.xlsx"    "first_7.xlsx"    "first_8.xlsx"    "first_9.x
sx"
11] "second ex.xlsx"  "second ex1.xlsx"
```

```
> library(xlsx)
> setwd("C:/Users/Owner/Documents/newwd")
> for(j in 1)
+ {
+   jjj<-list()
+   for(i  in 1:10)
+   {
+     excel<- list.files(pattern='*.xlsx')
+     for(k in 1)
+     {
+       g<-list(read.xlsx(excel[[i]],1,header=TRUE))
+
+     }
+
+     jjj[i]<-list(g[[k]])
+
+
+   }
+   p<-as.data.frame(jjj)
+   print(p)
+ }
   name age Alphabet hello age.1 ph.no last.na height weight colour
1     s  55        A     1    11    89     hat      6     55      w
2     h  22        B     2    12    35     bat      7     22      b
3     i  11        C     3    13    78     cat      2     55      w
4     v  33        D     4    14    36     yat      5     66      b
5     a  44        E     5    15    45     pat     36     99      w
6     r  55        F     6    16   268     lat      5     77      b
7     a  88        G     7    17   586     mat      4     88      w
8     j  99        H     8    18    23     dat      6     22      b
9     j  33        I     9    19    22    datt      2     33      w
10    j  11        J    10    20    33    katt      9     21      b
>
```