

Finolex Academy of Management and Technology, Ratnagiri

Department of Information Technology

Subject:	R Programming Lab. (ITL804)					
Class:	BE IT / Semester – VIII (Rev-2016) / Academic year: 2019-20					
Name of Student:	Kazi Jawwad A Rahim					
Roll No:	28		Date of performance (DOP) :			
Assignment/Experiment No:		03	Date of checking (DOC):			
Title: Program to demonstrate flow control instructions and functions						
	Marks:		Teacher's Signature:			

1. Aim: To understand the use of various flow control instructions and functions in R.

2. Prerequisites:

1. Basics of R programming, various data structures used in R etc.

3. Hardware Requirements:

1. PC with minimum 2GB RAM

4. Software Requirements:

- 1. Windows / Linux OS.
- 2. R version 3.6 or higher

5. Learning Objectives:

- 1. To understand decision and loop control instructions.
- 2. To understand function definition and calling to it.

6. Learning Objectives Applicable: LO 1

7. Program Outcomes Applicable: PO 1, PO 2

8. Program Education Objectives Applicable: PEO 2

```
IF ELSE Example:
age=as.numeric(readline("Enter age"))
gender=readline("Enter Gender")
if(age>=60 && gender=="M"){
 print("Available for Concession")
}else if(age>=45 && gender=="F"){
 print("Available for Concession");
}else{
 print("Noot avaialable for Concession")
OUTPUT:
> source('D:/JK/If Else.R')
Enter age60
Enter GenderM
[1] "Available for Concession"
SWITCH:
day=as.numeric(readline("Enter Day Number\n"))
y=switch(day,"Monday","Tuesday","Wednesday","Thursday","Friday","Saturday","Sunday")
print(y)
OUTPUT:
> source('D:/JK/Switch.R')
Enter Day Number
[1] "Friday"
For:
for(i in 1:10){
 print(i)
}
OUTPUT:
> source('D:/JK/For.R')
[1] 1
[1] 2
[1] 3
[1] 4
[1] 5
[1] 6
[1] 7
[1]8
[1]9
[1] 10
While:
i=1
while(i <= 5){
 print(i)
i=i+1
OUTPUT:
> source('D:/JK/While.R')
[1] 1
[1] 2
```

OUTPUT:

```
[1] 3
[1] 4
[1] 5
Repeat:
i=1
repeat{
 print(i)
 i=i+1
 if(i>5){
  break
 }
}
OUTPUT:
> source('D:/JK/Repeat.R')
[1] 1
[1] 2
[1] 3
[1] 4
[1] 5
Function:
area = function(I,w){
 a=l*w
 return(a)
print(area(3,5))
OUTPUT:
> source('D:/JK/Function.R')
[1] 15
Double Function:
volume=function(r,l){
 area=function(r){
  a=r*r
  return(a)
 v=area(I)*3.14*r*I
 return(v)
print(volume(3,5))
OUTPUT:
> source('D:/JK/Double Function.R')
[1] 1177.5
```

Learning Outcomes Achieved:

- 1. We understood decision and loop control instructions.
- 2. We understood function definition and calling to it.

Conclusion:

We have successfully demonstrated the loop instructions like If-Else, Switch, For, While, Repeat and functions and double functions.

13. Experiment/Assignment Evaluation

Sr. No.	Parameters	Marks obtained	Out of	
1	Technical Understanding (Assessm method.) Teacher should mention the		6	
2	Neatness/presentation		2	
3	Punctuality		2	
Date of performance (DOP)		Total marks obtained		10
Date of checking (DOC)		Signature of teacher		

References:

- 1. URL: https://cran.r-project.org/doc/manuals/r-release/R-intro.pdf (Online Resources)
- 2. R Cookbook Paperback 2011 by Teetor Paul O Reilly Publications
- 3. Beginning R: The Statistical Programming Language by Dr. Mark Gardener, Wiley Publications
- 4. R Programming For Dummies by Joris Meys Andrie de Vries, Wiley Publications

Viva Questions

- 1. What are decision control instructions?
- 2. What are loop control instructions?
- 3. Compare flow control instructions in R with flow control instructions in Python?
- 4. How to define function in R?
- 5. Can I shuffle arguments of the functions while calling it?