

BALLARI INSTITUTE OF TECHNOLOGY & MANAGEMENT

(Autonomous Institute under Visvesvaraya Technological University, Belagavi)

USN

Course Code

22CD383

Third Semester B.E. Degree Examinations, January 2025

R PROGRAMMING

(CSE- Data Science)

Duration: 1 hr

Max. Marks: 50

Instructions to the Candidates:

- All questions are compulsory
- Each question carries 1 mark
- Use only black ball point pen
- Darkening two circles for the same question makes the answer invalid
- Damaging/overwriting, using whiteners on the OMR are strictly prohibited.

Q.No**Question**

- Which of the following will start the R program in Windows OS?
A. \$ R B. > R C. * R D. @ R
- Point out the wrong statement?
A. R is a language for data analysis and graphics
B. K is language for statistical modelling and graphics
C. One key limitation of the S language was that it was only available in a commercial package, S-PLUS
D. C is a language for data and graphics
- Which of the following statement is alternative to _____ is? Solve.
A. help(solve) B. print(solve) C. bind(solve) D. matrix(solve)
- Attributes of an object (if any) can be accessed using the _____ function.
A. objects() B. attrib() C. attributes() D. obj()
- Which of the following can be considered as object attribute?
A. dimensions B. class C. length D. all of the mentioned
- The _____ function can be used to create vectors of objects by concatenating things together.
A. cp() B. c() C. concat() D. con()
- What will be the output of the following R code?
`x <- ("a", "b")`
`as.logical(x)`
A. a b B. "a" "b" C. 1 1 D. Error
- The longer programs are called _____.
A. Files B. Structures C. Scripts D. Data
- What will be the output of the following R code?
`options(digits = 16)`
`20/6`
A. 3.33 B. 3.333 C. 3.3333333 D. 3.3333333333333333
- In the expression `x <- 4` in R, what is the class of 'x' as determined by the 'class()' function?
A. Character B. Numeric C. Integer D. Word
- What is the output of the following code?
`seq(from = 1, to = 9, by = 2)`
A. 1 3 5 7 9 B. 1 3 5 7 9 11 C. 1 2 3 4 5 6 7 8 9 D. Error
- What is the output of the following code?
`> c(0, 0, 1, 1) / c(0, 1, 0, 1)`
A. TRUE FALSE TRUE TRUE B. FALSE TRUE TRUE TRUE
C. TRUE TRUE FALSE TRUE D. TRUE TRUE TRUE FALSE

Note: (RBTL - Revised Bloom's Taxonomy Level: CO - Course Outcome: PI- Performance Indicator)

- 13 What does `rm(list=ls())` do?
 A. List all objects B. Removes all objects C. Remove current object D. None of the above
- 14 Which function is used to add additional columns in a matrix?
 A. `add()` B. `cbind()` C. `join()` D. `append_item()`
- 15 What will be the output of the following R code?
`> m <- matrix(nrow = 2, ncol = 3)`
`> dim(m)`
 A. 2 2 B. 2 3 C. 3 2 D. 4 5
- 16 Which of the following R code extracts the second column for the following matrix?
`> x <- matrix(1:6, 2, 3)`
 A. `x[2,]` B. `x[1, 2]` C. `x[, 2]` D. `x[1 1 2]`
- 17 What will be the output of the following R code?
`> x <- c(-2, -1, 1, 2)`
`> ifelse(x > 0, "Positive", "Negative")`
 A. "Negative" "Negative" "Positive" "Positive" B. "Positive" "Positive" "Negative" "Negative"
 C. "Positive" "Negative" "Positive" "Negative" D. s "Negative" "Positive" "Negative" "Positive"
- 18 Point out the correct statement? Note: (A: True and B: False)
 A. `ifelse(test, B, A)` B. `elseif(test, A, B)` C. `if (test, A, B)` D. `ifelse(test, A, B)`
- 19 What will be the output of the following R code?
`> x <- 3`
`> switch(2, 2+2, mean(1:10), rnorm(5))`
 A. 5 B. 5.5 C. NULL D. 58
- 20 Point out the correct statement?
 A. You can also use the \$ operator to extract elements by name
 B. \$ operator can be used with computed indices
 C. The [[operator can only be used with literal names
 D. \$ operator semantics are similar to that of [[
- 21 What will be the output of the following R code?
`> x <- vector("list", length = 5)`
`> x`
 A. NIL B. 1 C. 4 D. NULL
- 22 Which of the following functions in R can be used to remove missing values from a vector?
 A. `na.rm()` B. `na.omit()` C. `na.fill()` D. `na.exclude()`
- 23 Which R data type is most appropriate for a categorical variable?
 A. Numeric B. Factor C. Integer D. Character
- 24 An ordered collection of objects or components are called _____
 A. Datasets B. Lists C. Databases D. Data frames
- 25 Data frames can contain which of the following types of data?
 A. Integers only. B. Integers and numeric only.
 C. Any type of data. D. Integers, numeric and character only.
- 26 Which of the following is a valid way to select the first row of a data frame named `df` in R?
 A. `df[0,]` B. `df[1,]` C. `df[,1]` D. `df[,0]`
- 27 What is the output for the following function?
`> x <- c(1, 1, 2, 3, 5, 8, 13);`
`> which(x%%3==0)`
 A. 2,8 B. 4 C. 2,3,8 D. 5,6
- 28 Given `c(11, NA, 13)`, What is the value of the expression `mean(a)` is
 A. NA B. 12 C. Error D. Warning message
- 29 ----- is used to apply a function over subsets of a vector.
 A. `mapply()` B. `lapply()` C. `apply()` D. `tapply()`
- 30 In R environment the Function is stored as ----- with this name.
 A. Object B. Function C. Class D. Memory

- 31 What will be the output of the following R code?

```
> f <- function() {  
+   ## This is an empty function  
+ }  
> f()
```

A. 0 B. No result C. NULL D. 1
- 32 An argument is
A. Place holder B. variable C. function D. None of the above
- 33 ----- function in R returns the minimum and maximum values of a numeric vector
A. max() B. min() C. avg() D. range()
- 34 Given the expression: `vector <- c(3, 5, 2, 3, 1, 4)`, then the function `print(median(vector))` returns the ----- value
A. 1 B. 2 C. 3 D. 4
- 35 Given `> a <- c(1,4,5,7)`, `b <- c(1,2,5,9)`, the result of `> setdiff(a,b)` is
A. 4 7 B. 2 9 C. 1 D. 9
- 36 Vectors are usually ----- data structures in R programming
A. 1 Dimensional B. 2 Dimensional C. Both a and b D. None of these
- 37 A series of function calls in which one function calls another, which in turn calls the original function is called as:
A. Recursion B. Direct Recursion C. Indirect Recursion D. Recursive Function
- 38 ----- function in R programming are predefined functions that are available to perform common task or operations
A. variable B. constant C. user defined D. built-in
- 39 A function can have ----- number(max) of arguments
A. 1 B. 2 C. s3 D. n
- 40 To leave debugger and continue with execution ----- command is used
A. c B. min() C. Next D. max()
- 41 How do you start writing a while loop in R?
A. while x < y: B. x < y while C. while x < y D. while (x < y)
- 42 The ----- function is used to give all the information on how your function arrived at an error.
A. traceback() B. browser() C. recover() D. trace()
- 43 Functions are having ----- number of components
A. 1 B. 2 C. 3 D. 4
- 44 What is the output of the following code : `> pmax (c(1,2,3),c(3,2,1),c(2,2,2))`
A. 1 2 1 B. 2 1 2 C. 1 3 1 D. 3 2 3
- 45 The ----- function returns a list of all the formal arguments of a function
A. formals() B. funct() C. formal() D. fun()
- 46 46. If a command is not complete at the end of a line, R will give a different prompt, by default it is -----
A. * B. - C. + D. /
- 47 What is the output of the following code

```
> test5 <- function(x = 1, y = 1, z = 1) {  
+ return(x * 100 + y * 10 + z)  
+ }  
> test5(2, 2)
```

A. 123 B. 223 C. 121 D. 221
- 48 The output generated by the function `X <- rep(c(1,5,9),1) print(X)` is?
A. 159 B. 951 C. 1 5 9 **sd. 1**
- 49 If you explicitly want an integer, you need to specify the ----- suffix.
A. D B. R C. L D. K
- 50 The following values: 10.5, 55 and 787, belongs to which data type?
a/ numeric B. integer C. complex D. All of the above
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