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**R Programming Question 1:**

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What does dplyr do in R Language?

1. dplyr is a new package which provides a set of tools for efficiently manipulating datasets in R.
2. dplyr is faster, has a more consistent API and should be easier to use.
3. Focusing on data frames
4. Direct connection to and analysis within external databases permitting simpler handling of large data.
5. All of above

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**Answer** (Detailed Solution Below)

Option 5 : All of above

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**R Programming Question 2:**

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Which of the following is true for a vector in R?

1. It is a homogeneous 1-dimensional data structure
2. It is a heterogeneous 1-dimensional data structure
3. It is a homogeneous 2-dimensional data structure
4. It is a heterogeneous 2-dimensional data structure
5. None of above

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**Answer** (Detailed Solution Below)

Option 1 : It is a homogeneous 1-dimensional data structure

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**R Programming Question 3:**

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Which function cannot be used to import a csv file in R?

1. read.table()
2. read.csv()
3. read\_excel()
4. None of the above
5. All of above

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**Answer** (Detailed Solution Below)

Option 3 : read\_excel()

**R Programming Question 4:**

Which of the following statements are true with respect to the R language?

- i. The variables can be assigned values using only the leftward operator ( <- ).
- ii. The variables can be assigned values using only the rightward operator ( -> ).
- iii. The variables can be assigned values using leftward, rightward and equal to operator.

- 1. only i
- 2. only ii
- 3. only iii
- 4. only i, ii and iii
- 5. None of the above

**Answer (Detailed Solution Below)**

Option 3 : only iii

**R Programming Question 5:**

Which of the following is not a Meta Character of Regex in data analytics?

- 1. []
- 2. ^
- 3. {}
- 4. #
- 5. \*

**Answer (Detailed Solution Below)**

Option 4 : #

**R Programming Question 6:**

In R programming, the function class() belongs to which library?

- 1. stats
- 2. base
- 3. utils
- 4. class
- 5. none of above

**Answer (Detailed Solution Below)**

Option 2 : base

**R Programming Question 7:**

What does dplyr do in R Language?

1. dplyr is a new package which provides a set of tools for efficiently manipulating datasets in R.
2. dplyr is faster, has a more consistent API and should be easier to use.
3. Focusing on data frames
4. Direct connection to and analysis within external databases permitting simpler handling of large data.
5. All of above

**Answer** (Detailed Solution Below)

Option 5 : All of above

**R Programming Question 8:**

Which of the following is true for a vector in R?

1. It is a homogeneous 1-dimensional data structure
2. It is a heterogeneous 1-dimensional data structure
3. It is a homogeneous 2-dimensional data structure
4. It is a heterogeneous 2-dimensional data structure
5. None of above

**Answer** (Detailed Solution Below)

Option 1 : It is a homogeneous 1-dimensional data structure

**R Programming Question 9:**

Which function cannot be used to import a csv file in R?

1. `read.table()`
2. `read.csv()`
3. `read_excel()`
4. None of the above
5. All of above

**Answer** (Detailed Solution Below)

Option 3 : `read_excel()`

**R Programming Question 10:**

Which of the following statements are true with respect to the R language?

- i. The variables can be assigned values using only the leftward operator ( <- ).
- ii. The variables can be assigned values using only the rightward operator ( -> ).
- iii. The variables can be assigned values using leftward, rightward and equal to operator.

- 1. only i
- 2. only ii
- 3. only iii
- 4. only i,ii and iii
- 5. None of the above

**Answer (Detailed Solution Below)**

Option 3 : only iii

**R Programming Question 11:**

Which of the following is not a Meta Character of Regex in data analytics?

- 1. [ ]
- 2. ^
- 3. { }
- 4. #
- 5. \*

**Answer (Detailed Solution Below)**

Option 4 : #

**R Programming Question 12:**

Which of the following file formats are read and write ( Importing and Exporting Data) by R programming language in data analytics?

- 1. csv
- 2. excel
- 3. xml
- 4. txt
- 5. All the above

**Answer (Detailed Solution Below)**

Option 5 : All the above

**R Programming Question 13:**

\_\_\_\_\_ are generic data objects of R which are used to store the tabular data. Which are made up of three principal components, the data, rows, and columns.

1. Array
2. Factors
3. DataFrames
4. Lists
5. Vector

**Answer (Detailed Solution Below)**

Option 3 : DataFrames

**R Programming Question 14:**

Which function cannot be used to import a csv file in R?

1. read.table()
2. read.csv()
3. read\_excel()
4. None of the above

**Answer (Detailed Solution Below)**

Option 3 : read\_excel()

**R Programming Question 15:**

Which of the following is true for a vector in R?

1. It is a homogeneous 1-dimensional data structure
2. It is a heterogeneous 1-dimensional data structure
3. It is a homogeneous 2-dimensional data structure
4. It is a heterogeneous 2-dimensional data structure

**Answer (Detailed Solution Below)**

Option 1 : It is a homogeneous 1-dimensional data structure

**R Programming Question 15 Detailed Solution**

The correct answer is **option 1**.

**Concept:**

**1. R was created by?**

- A. Ross Ihaka
- B. Robert Gentleman
- C. Both A and B
- D. Ross Gentleman

Ans : C

**2. R allows integration with the procedures written in the?**

- A. C
- B. Ruby
- C. Java
- D. Basic

Ans : A

Explanation: R allows integration with the procedures written in the C, C++, .Net, Python or FORTRAN languages for efficiency.

**3. R is free software distributed under a GNU-style copy left, and an official part of the GNU project called?**

- A. GNU A
- B. GNU S
- C. GNU L
- D. GNU R

Ans : B

Explanation: R is free software distributed under a GNU-style copy left, and an official part of the GNU project called GNU S.

**4. R made its first appearance in?**

- A. 1992
- B. 1995
- C. 1993
- D. 1994

Ans : C

Explanation: R made its first appearance in 1993.

**5. Which of the following is true about R?**

- A. R is a well-developed, simple and effective programming language
- B. R has an effective data handling and storage facility
- C. R provides a large, coherent and integrated collection of tools for data analysis.
- D. All of the above

Ans : D

Explanation: All of the above statement are true.

**6. Point out the wrong statement?**

- A. Setting up a workstation to take full advantage of the customizable features of R is a straightforward thing
- B. q() is used to quit the R program
- C. R has an inbuilt help facility similar to the man facility of UNIX
- D. Windows versions of R have other optional help systems also

Ans : B

Explanation: help command is used for knowing details of particular command in R.

**7. Command lines entered at the console are limited to about \_\_\_\_\_ bytes**

- A. 4095
- B. 4096
- C. 4097
- D. 4098

Ans : A

Explanation: Elementary commands can be grouped together into one compound expression by braces ('{' and '}').

**8. R language is a dialect of which of the following languages?**

- A. s
- B. c
- C. sas
- D. matlab

Ans : A

Explanation: The R language is a dialect of S which was designed in the 1980s. Since the early 90's the life of the S language has gone down a rather winding path. The scoping rules for R are the main feature that makes it different from the original S language.

**9. How many atomic vector types does R have?**

- A. 3
- B. 4
- C. 5
- D. 6

Ans : D

Explanation: R language has 6 atomic data types. They are logical, integer, real, complex, string (or character) and raw. There is also a class for "raw" objects, but they are not commonly used directly in data analysis.

**10. R files has an extension \_\_\_\_.**

- A. .S
- B. .RP
- C. .R
- D. .SP

Ans : C

Explanation: All R files have an extension .R. R provides a mechanism for recalling and re-executing previous commands. All S programmed files will have an extension .S. But R has many functions than S.

**1. What will be output for the following code?**

```
v <- TRUE
```

```
print(class(v))
```

- A. logical
- B. Numeric
- C. Integer
- D. Complex

Ans : A

Explanation: It produces the following result :

```
[1] ""logical""
```

**2. What will be output for the following code?**

```
v <- """TRUE"""
```

```
print(class(v))
```

- A. logical
- B. Numeric
- C. Integer
- D. Character

Ans : D

Explanation: It produces the following result :

```
[1] ""character""
```

**3. In R programming, the very basic data types are the R-objects called?**

- A. Lists
- B. Matrices
- C. Vectors
- D. Arrays

Ans : C

Explanation: In R programming, the very basic data types are the R-objects called vectors

**4. Data Frames are created using the?**

- A. frame() function
- B. data.frame() function
- C. data() function
- D. frame.data() function

Ans : B

Explanation: Data Frames are created using the data.frame() function

**5. Which functions gives the count of levels?**

- A. level
- B. levels
- C. nlevels
- D. nlevel

Ans : C

Explanation: Factors are created using the factor() function. The nlevels functions gives the count of levels.

**6. Point out the correct statement?**

- A. Empty vectors can be created with the vector() function
- B. A sequence is represented as a vector but can contain objects of different classes
- C. "raw" objects are commonly used directly in data analysis
- D. The value NaN represents undefined value

Ans : A

Explanation: A vector can only contain objects of the same class.

**7. What will be the output of the following R code?**

```
> x <- vector("numeric", length = 10)
```

- > x
- A. 1 0
- B. 0 0 0 0 0 0 0 0 0
- C. 0 1
- D. 0 0 1 1 0 1 1 0

Ans : B

Explanation: You can also use the vector() function to initialize vectors.

8. What will be output for the following code?

> sqrt(-17)

- A. -4.02
- B. 4.02
- C. 3.67
- D. NAN

Ans : D

Explanation: These metadata can be very useful in that they help to describe the object.

9. \_\_\_\_\_ function returns a vector of the same size as x with the elements arranged in increasing order.

- A. sort()
- B. orderasc()
- C. orderby()
- D. sequence()

Ans : A

Explanation: There are other more flexible sorting facilities available like order() or sort.list() which produce a permutation to do the sorting.

10. What will be the output of the following R code?

```
> m <- matrix(nrow = 2, ncol = 3)
> dim(m)
```

- A. 3 3
- B. 3 2
- C. 2 3
- D. 2 2

Ans : C

Explanation: Matrices are constructed column-wise.

1. Which loop executes a sequence of statements multiple times and abbreviates the code that manages the loop variable?

- A. for
- B. while
- C. do-while
- D. repeat

Ans : D

Explanation: repeat loop : Executes a sequence of statements multiple times and abbreviates the code that manages the loop variable.

**2. Which of the following true about for loop?**

- A. Repeats a statement or group of statements while a given condition is true. It tests the condition before executing the loop body.
- B. it tests the condition at the end of the loop body.
- C. Both A and B
- D. None of the above

Ans : B

Explanation: for loop : Like a while statement, except that it tests the condition at the end of the loop body.

**3. Which statement simulates the behavior of R switch?**

- A. Next
- B. Previous
- C. break
- D. goto

Ans : A

Explanation: The next statement simulates the behavior of R switch.

**4. In which statement terminates the loop statement and transfers execution to the statement immediately following the loop?**

- A. goto
- B. switch
- C. break
- D. label

Ans : C

Explanation: Break : Terminates the loop statement and transfers execution to the statement immediately following the loop.

**5. Point out the wrong statement?**

- A. Multi-line expressions with curly braces are just not that easy to sort through when working on the command line
- B. lappy() loops over a list, iterating over each element in that list
- C. lapply() does not always returns a list
- D. You cannot use lapply() to evaluate a function multiple times each with a different argument

Ans : C

Explanation: lapply() always returns a list, regardless of the class of the input.

6. The mapply() function is a multivariate apply of sorts which applies a function in parallel over a set of arguments.

- A. TRUE
- B. FALSE
- C. Can be true or false
- D. Can not say

Ans : A

Explanation: True, The mapply() function is a multivariate apply of sorts which applies a function in parallel over a set of arguments.

7. Which of the following is valid body of split function?

- A. function (x, f)
- B. function (x, f, drop = FALSE, ...)
- C. function (x, drop = FALSE, ...)
- D. function (drop = FALSE, ...)

Ans : B

Explanation: x is a vector (or list) or data frame

8. Which of the following character skip during execution?

```
v <- LETTERS[1:6]
for ( i in v) {
  if (i == ""D"") {
    next
  }
  print(i)
}
```

- A. A
- B. B
- C. C
- D. D

Ans : D

Explanation: When the above code is compiled and executed, it produces the following result :

```
[1] ""A"""
[1] ""B"""
[1] ""C"""
[1] ""E"""
[1] ""F"""


```

9. What will be output for the following code?

```
v <- LETTERS[1]
```

```
for ( i in v) {
```

```
    print(v)
```

```
}
```

A. A

B. A B

C. A B C

D. A B C D

Ans : A

Explanation: The output for the following code : [1] "A"

10. What will be output for the following code?

```
v <- LETTERS["A"]
```

```
for ( i in v) {
```

```
    print(v)
```

```
}
```

A. A

B. NAN

C. NA

D. Error

Ans : C

Explanation: The output for the following code : [1] NA

1. An R function is created by using the keyword?

A. fun

B. function

C. declare

D. extends

Ans : B

Explanation: An R function is created by using the keyword function.

2. What will be output for the following code?

```
print(mean(25:82))
```

A. 1526

B. 53.5

C. 50.5

D. 55

Ans : B

Explanation: The code will find mean of numbers from 25 to 82 that is 53.5

**3. Point out the wrong statement?**

- A. Functions in R are “second class objects”
- B. The writing of a function allows a developer to create an interface to the code, that is explicitly specified with a set of parameters
- C. Functions provides an abstraction of the code to potential users
- D. Writing functions is a core activity of an R programmer

Ans : A

Explanation: Functions in R are “first class objects”, which means that they can be treated much like any other R object.

**4. What will be output for the following code?**

```
> paste("a", "b", se = ":")
```

- A. a+b
- B. a:b
- C. a-b
- D. None of the above

Ans : D

Explanation: With the paste() function, the arguments sep and collapse must be named explicitly and in full if the default values are not going to be used.

**5. Which function in R language is used to find out whether the means of 2 groups are equal to each other or not?**

- A. f.tests ()
- B. l.tests ()
- C. t.tests ()
- D. p.tests ()

Ans : C

Explanation: t.tests () function in R language is used to find out whether the means of 2 groups are equal to each other. It is not used most commonly in R. It is used in some specific conditions.

**6. What will be the output of log (-5.8) when executed on R console?**

- A. NA
- B. NAN
- C. 0.213
- D. Error

Ans : B

Explanation: Executing the above on R console or terminal will display a warning sign that NaN (Not a Number) will be produced in R console because it is not possible to take a log of a negative number(-).

**7. Which function is preferred over sapply as vapply allows the programmer to specific the output type?**

- A. Lapply
- B. Japply
- C. Vapply
- D. Zapply

Ans : C

Explanation: Vapply is similar to sapply, but has a pre-specified type of return value, so it can be safer (and sometimes faster) to use. simplify2array() is the utility called from sapply() when simplify is not false and is similarly called from mapply().

**8. How will you check if an element is present in a vector?**

- A. Match()
- B. Dismatch()
- C. Mismatch()
- D. Search()

Ans : A

Explanation: It can be done using the match () function- match () function returns the first appearance of a particular element. The other way is to use %in% which returns a Boolean value either true or false.

**9. You can check to see whether an R object is NULL with the \_\_\_\_\_ function.**

- A. is.null()
- B. is.nullobj()
- C. null()
- D. as.nullobj()

Ans : A

Explanation: It is sometimes useful to allow an argument to take the NULL value, which might indicate that the function should take some specific action.

**10. In the base graphics system, which function is used to add elements to a plot?**

- A. Boxplot()
- B. Text()
- C. Treat()
- D. Both A and B

Ans : D

Explanation: In the base graphics system, boxplot or text function is used to add elements to a plot.

**1. Which of the following syntax is used to install forecast package?**

- A. `install.pack("forecast")`
- B. `install.packages("cast")`
- C. `install.packages("forecast")`
- D. `install.pack("forecastcast")`

Ans : C

Explanation: forecast is used for time series analysis

**2. Which splits a data frame and returns a data frame?**

- A. `apply`
- B. `ddply`
- C. `stats`
- D. `plyr`

Ans : B

Explanation: `ddply` splits a data frame and returns a data frame.

**3. Which of the following is an R package for the exploratory analysis of genetic and genomic data?**

- A. `adeg`
- B. `adegenet`
- C. `anc`
- D. `abd`

Ans : B

Explanation: This package contains Classes and functions for genetic data analysis within the multivariate framework.

**4. Which of the following contains functions for processing uniaxial minute-to-minute accelerometer data?**

- A. `accelerometry`
- B. `abc`
- C. `abd`
- D. `anc`

Ans : A

Explanation: This package contains a collection of functions that perform operations on time-series accelerometer data, such as identify non-wear time, flag minutes that are part of an activity bout, and find the maximum 10-minute average count value.

5. \_\_\_\_\_ Uses Grieg-Smith method on 2 dimensional spatial data.

- A. G.A.
- B. G2db
- C. G.S.
- D. G1DBN

Ans : C

Explanation: The function returns a GriegSmith object which is a matrix with block sizes, sum of squares for each block size as well as mean sums of squares. G1DBN is a package performing Dynamic Bayesian Network Inference.

6. Which of the following package provide namespace management functions not yet present in base R?

- A. stringr
- B. nbpMatching
- C. messagewarning
- D. namespace

Ans : D

Explanation: The package namespace is one of the most confusing parts of building a package. nbpMatching contains functions for non-bipartite optimal matching.

7. What will be the output of the following R code?

```
install.packages(c("devtools", "roxygen2"))
```

- A. Develops the tools
- B. Installs the given packages
- C. Exits R studio
- D. Nothing happens

Ans : B

Explanation: Make sure you have the latest version of R and then run the above code to get the packages you'll need. It installs the given packages. Confirm that you have a recent version of RStudio.

**8. A bundled package is a package that's been compressed into a \_\_\_\_\_ file.**

- A. Double
- B. Single
- C. Triple
- D. No File

Ans : B

Explanation: A bundled package is a package that's been compressed into a single file. A source package is just a directory with components like R/, DESCRIPTION, and so on.

**9. .library() is not useful when developing a package since you have to install the package first.**

- A. TRUE
- B. FALSE
- C. Can be true or false
- D. Can not say

Ans : A

Explanation: library() is not useful when developing a package since you have to install the package first. A library is a simple directory containing installed packages.

**10. DESCRIPTION uses a very simple file format called DCF.**

- A. TRUE
- B. FALSE
- C. Can be true or false
- D. Can not say

Ans : A

Explanation: DESCRIPTION uses a very simple file format called DCF, the Debian control format. When you first start writing packages, you'll mostly use these metadata to record what packages are needed to run your package.

1. What is output of `getOption("defaultPackages")` in R studio?
- a) Installs a new package
  - b) Shows default packages in R
  - c) Error
  - d) Nothing will print

**Answer: b**

Clarification: There are base packages (which come with R automatically), and contributed packages. The base packages are maintained by a select group of volunteers, called R Core. In addition to the base packages, there are over ten thousand additional contributed packages written by individuals all over the world.

2. What will be the output of the following R code?

```
x <- c(3, 7, NA, 4, 7)
y <- c(5, NA, 1, 2, 2)
x + y
```

- a) Symbol
- b) Missing Data
- c) 5
- d) 15.5

**Answer: b**

Clarification: Missing data are a persistent and prevalent problem in many statistical analyses, especially those associated with the social sciences. R reserves the special symbol NA to represent missing data. Ordinary arithmetic with NA value gives NA's (addition, subtraction, etc.) and applying a function to a vector that has a NA in it will usually give a NA.

3. R language is a dialect of which of the following languages?

- a) S
- b) C
- c) MATLAB
- d) SAS

**Answer: a**

Clarification: The R language is a dialect of S which was designed in the 1980s. Since the early 90's the life of the S language has gone down a rather winding path. The scoping rules for R are the main feature that makes it different from the original S language.

4. R language has superficial similarity with \_\_\_\_\_

- a) C
- b) Python
- c) MATLAB
- d) SAS

**Answer: a**

Clarification: The language syntax has a superficial similarity with C, but the semantics are of the FPL (functional programming language) variety with stronger affinities with Lisp and APL. There are many syntaxes in C, which are closely resembled with R.

5. What is the mode of 'a' in the following R code?

```
a <- c(1, " a", FALSE)
```

- a) Numeric
- b) Character
- c) Integer
- d) Logical

**Answer: b**

Clarification: All three elements can be expressed as a character. Both `paste()` and `cat()` will printout text to the console by combining multiple character vectors together. The original data are formatted as character strings so we convert them to R's Date format for easier manipulation.

6. What is the length of b?

- a) 4
- b) 5
- c) 6
- d) 0

**Answer: c**

Clarification: Length of b [1] 2 3 4 5 6 7 is 6. We can also create an empty list of a prespecified length with the vector() function. Data frames are represented as a special type of list where every element of the list has to have the same length.

7. What is the mode of b in the following R code?

- a) Numeric
- b) Character
- c) Integer
- d) Logical

**Answer: a**

Clarification: All the elements in 'b' can be expressed in numeric. Both paste() and cat() will printout text to the console by combining multiple character vectors together. The original data are formatted as character strings so we convert them to R's Data format for easier manipulation.

8. What are the typeof(x) and mode(x) in the following R syntax?

- a) Numeric, Integer
- b) Integer, Numeric
- c) Integer, Integer
- d) Numeric, Numeric

**Answer: b**

Clarification: Here typeof() tells about the data type. They are an important type of object in R and are used in a variety of statistical modelling applications. You can determine an object's type with the typeof function.

9. How many atomic vector types does R have?

- a) 5
- b) 6
- c) 8
- d) 10

**Answer: b**

Clarification: R language has 6 atomic data types. They are logical, integer, real, complex, string (or character) and raw. There is also a class for "raw" objects, but they are not commonly used directly in data analysis.

10. What is the function to set row names for a data frame?

- a) row.names()
- b) colnames()
- c) col.names()
- d) column name cannot be set for a data frame

**Answer: a**

Clarification: row.names() is the function to set row names for a data frame. Data frames have a special attribute called row.names, which indicate information about each row of the data frame.

## Test -01

1. Who is introduced R Programming Language?

- A) Ross Ihaka
- B) Robert Gentleman
- C) Both (A) and (B)
- D) Florian Hahne

2. When the First appeared R Programming Language?

- A) August 1992
- B) August 1993
- C) August 1994
- D) August 1995

3. What is a correct syntax to output "Hello World" in R?

- A) 'Hello World'
- B) "Hello World"
- C) print("Hello World")
- D) All of the other answers are correct

4. How do you insert COMMENTS in R code?

- A) # This is a comment
- B) /\* This is a comment
- C) // This is a comment
- D) None of the above

5. How do you create a variable named x with the numeric value 5?

- A) x : 5
- B) x <- 5
- C) int x = 5
- D) All of the above

6. Which function is often used to concatenate elements?

- A) join()
- B) merge()
- C) paste()
- D) concat()

7. Which statement is used to stop a loop?

- A) stop
- B) exit
- C) break
- D) return

8. Which function is used to find the amount of rows and columns in an array?

- A) dim()
- B) nchar()
- C) length()
- D) dim\_len()

9. 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)

10. How do you start writing an if statement in R?

- A) if (x > y)
- B) if x > y:
- C) if x > y then:
- D) None of the above

## Test -02

1. Which function is used to add additional columns in a matrix?

- A) add()
- B) cbind()
- C) join()
- D) append\_item()

2. Which function is used to draw points (markers) in a diagram?

- A) d()
- B) draw()
- C) plot()
- D) canvas()

3. How can you assign the same value to multiple variables in one line?

- A) var1, var2, var3 <- "Orange"
- B) var1, var2, var3 = "Orange"
- C) var1, var2, var3 => "Orange"
- D) var1 <- var2 <- var3 <- "Orange"

4. Which operator is used to add together two values?

- A) The & sign
- B) The + sign
- C) The \* sign
- D) None of the above

5. The following values: 10.5, 55 and 787, belongs to which data type?

- A) numeric
- B) integer
- C) complex
- D) All of the above

6. R allows integration with the procedures written in the?

- A) C
- B) Ruby
- C) Java
- D) Basic

7. R is free software distributed under a GNU-style copy left, and an official part of the GNU project called?

- A) GNU A
- B) GNU L
- C) GNU S
- D) GNU R

8. Which of the following is true about R?

- A) R has an effective data handling and storage facility
- B) R is a well-developed, simple and effective programming language
- C) R provides a large, coherent and integrated collection of tools for data analysis.
- D) All of the above

9. Command lines entered at the console are limited to about \_\_\_\_\_ bytes

- A) 4090
- B) 4095
- C) 4120
- D) 4225

10. R language is a dialect of which of the following languages?

- A) C
- B) S
- C) SAS
- D) Matlab

## Test -03

1. How many atomic vector types does R have?

- A) 6
- B) 5
- C) 4
- D) 3

2. Which operator can be used to compare two values?

- A) =
- B) <>
- C) ==
- D) ><

3. Which function can be used to return the square root of a number?

- A) sr()
- B) sqrt()
- C) sqrt()
- D) square\_root()

4. What will the following function do with the str string: nchar(str)

- A) Add spaces to each word inside the str string
- B) Insert an escape character before the str string
- C) Add a new line for each word inside the str string
- D) Find the number of characters in the str string

5. How do you create a function in R?

- A) my\_function <- function.
- B) my\_function <- function()
- C) my\_function <- function[]
- D) None of the above

6. How do you call a function in R?

- A) my\_function()
- B) my\_function;
- C) my\_function[]
- D) (my\_function);

7. Which function can be used to create a data frame?

- A) df()
- B) dframe()
- C) dataframe()
- D) data.frame()

8. What is the correct way to create a list of strings?

- A) fruits <- v("banana", "apple", "orange")
- B) fruits <- c("banana", "apple", "orange")
- C) fruits <- list("banana", "apple", "orange")
- D) fruits <- vectorOf("banana", "apple", "orange")

9. What is the correct way to create a vector of strings?

- A) fruits <- v("banana", "apple", "orange")
- B) fruits <- c("banana", "apple", "orange")
- C) fruits <- list("banana", "apple", "orange")
- D) fruits <- listOf("banana", "apple", "orange")

10. Consider the following code: for (x:1:10). Which keyword is missing inside the for loop to output the numbers 1 to 10?

- A) in
- B) seq
- C) list
- D) inside

## Test -04

1. A \_\_\_\_\_ is a variable that holds one value at a time.

- A) High
- B) Vector
- C) Duplex
- D) Scalar variable

2. Which function is used to automatically vectorize?

- A) mapply()
- B) lapply()
- C) happy()
- D) kapply()

3. R has many functions regarding \_\_\_\_\_

- A) Distributions, Physics
- B) Probability, Microbiology
- C) Statistics, Probability, Distributions
- D) Statistics, Biotechnology

4. What will be the output of the following R code?

```
> x <- 1
```

```
> print(x)
```

- A) 1
- B) 2
- C) 3
- D) 4

5. Which of the R following code is example of explicit printing?

- A) 

```
> x <- 5
```

  

```
> x
```
- B) 

```
> x <- 5
```

  

```
> print(x)
```
- C) 

```
> x <- "auto"
```

  

```
> x
```
- D) 

```
> x <- "auto"
```

  

```
> x <- "auto"
```

6. If commands are stored in an external file, say commands.R in the working directory work, they may be executed at any time in an R session with the command \_\_\_\_\_

- A) exec("command.R")
- B) exec("commands.R")
- C) execute("commands.R")
- D) source("commands.R")

7. \_\_\_\_\_ will divert all subsequent output from the console to an external file.

- A) div
- B) sink
- C) exc
- D) exp

8. Collection of objects currently stored in R is called as \_\_\_\_\_

- A) list
- B) task
- C) workspace
- D) package

9. What is the meaning of the following R function?

```
x <- c(4, 5, 1, 2, 3, 3, 4, 4, 5, 6)
```

```
x <- as.factor(x)
```

- A) x becomes a factor
- B) x is a factor
- C) x is not a vector
- D) x does not exist

10. What will be the output of the following R function?

```
paste("Everybody", "is", "a", "warrior")
```

- A) Everybody is a warrior
- B) "Everybody is a warrior"
- C) Everybody, "is", "a", "warrior
- D) "Everybody", "is", "a", "warrior"

## Test 05

1. What will be the output of the following R function?

```
cat("Everybody", "is", "a", "warrior", sep = "")
```

- A) Everybody\*is\*a\*warrior
- B) "Everybody" is "a" warrior
- C) Everybody", "is", "a" , "warrior
- D) "Everybody", "is", "a" , "warrior"

2. What will be the output of the following R function?

```
Sys.Date()
```

- A) Some date
- B) Yesterday date
- C) Present date
- D) Tomorrow date

3. What will be the output of the following R function?

```
Sys.time()
```

- A) Some date
- B) Yesterday date and time
- C) Tomorrow date and time
- D) Present date and time

4. R has how many atomic classes of objects?

- A) 5
- B) 4
- C) 3
- D) 2

5. Numbers in R are generally treated as \_\_\_\_\_ precision real numbers.

- A) real
- B) single
- C) double
- D) imaginary

6. Attributes of an object (if any) can be accessed using the \_\_\_\_\_ function.

- A) obj()
- B) attrib()
- C) objects()
- D) attributes()

7. The \_\_\_\_\_ function can be used to create vectors of objects by concatenating things together.

- A) c()
- B) cp()
- C) con()
- D) concat()

8. What will be the output of the following R code?

```
> x <- vector("numeric", length = 10)  
> x
```

- A) 01
- B) 0 0 0 0 0 0 0 0 0
- C) 10
- D) 00120

9. What will be the output of the following R code?

```
> x <- 6  
> class(x)
```

- A) "real"
- B) "integer"
- C) "imaginary"
- D) "numeric"

10. What will be the output of the following R code?

```
> sqrt(-17)
```

- A) NaN
- B) 3.67
- C) 4.02
- D) -4.02

## Test -06

1. Which of the following code constructs vector of length 11?

- A) `> v <- 2*x + y + 4`
- B) `> v <- 3*x + y + 1`
- C) `> v <- 2*x + y + 1`
- D) `> v <- 3*x + y + 2`

2. \_\_\_\_\_ function returns a vector of the same size as `x` with the elements arranged in increasing order.

- A) `orderby()`
- B) `sort()`
- C) `orderasc()`
- D) `sequence()`

3. Which of the following statement would print "0" "1" "2" "3" "4" "5" "6" for the following R code?

```
> x <- 0:6
```

- A) `as.num(y)`
- B) `as.logical(x)`
- C) `as.numeric(x)`
- D) `as.character(x)`

4. Which of the following is invalid assignment in R?

- A) `> m <- mat(nrow = 2, ncol = 3)`
- B) `> m <- mat(nrow = 2, ncol = 5)`
- C) `> m <- matrix(nrow = 2, ncol = 3)`
- D) `> m <- matrix(nrow = 2, ncol = 3.5)`

5. 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

6. What will be the output of the following R code?

```
> m <- matrix(1:6, nrow = 2, ncol = 3)
> m
```

- A) 

[,1]	[,2]	[,3]
[1,]	1 3 5	
[2,]	2 4 6	
- B) 

[,0]	[,1]	[,2]
[1,]	1 3 5	
[2,]	2 4 6	
- C) 

[,1]	[,2]	[,3]
[1,]	1 3 6	
[2,]	2 4 5	
- D) 

[,5]	[,6]	[,7]
[1,]	1 3 6	
[2,]	2 4 5	

7. What will be the output of the following R code?

```
> m <- 1:10
> m
```

- A) 10 9 8 6 4 2 3 1 2
- B) 0 1 2 3 4 5 6 7 8 9 10
- C) 1 2 3 4 5 6 7 8 9 10
- D) 1 2 3 4 5 6 7 8 9 10 11

8. Find the following type of vector?

```
a <- c(1,2,5,3,6,-2,4)
```

- A) Integer
- B) Numeric
- C) Logical
- D) Character

9. All columns in a matrix must have the same mode and the \_\_\_\_\_ length.

- A) Same
- B) Different
- C) May be the same
- D) May be different

10. \_\_\_\_\_ are similar to matrices but can have more than two dimensions.

- A) Columns
- B) Functions
- C) Packages
- D) Arrays

## Test 07

1. An ordered collection of objects or components are called \_\_\_\_\_

- A) Datasets
- B) Lists
- C) Databases
- D) Data frames

2. The \_\_\_\_\_ stores the nominal values as a vector of integers in the range of 1 to unique values in the nominal variable.

- A) Lists
- B) Factor
- C) Matrix
- D) Functions

3. On what basis of a variable, OS allocates memory and decides what can be stored in the reserved memory?

- A) Lists
- B) Data sets
- C) Data bases
- D) Data types

4. Which function takes a dim attribute which creates the required number of dimensions?

- A) Array
- B) Lists
- C) Matrix
- D) Vector

5. Factors are created using the \_\_\_\_\_ function.

- A) C()
- B) Lists()
- C) Function()
- D) Array()

6. Data frames can have additional attributes such as \_\_\_\_\_

- A) R.names()
- B) D.names()
- C) Rowname()
- D) Rownames()

7. The four most frequently used types of data objects in R are vectors, matrices, data frames and \_\_\_\_\_

- A) Lists
- B) Function
- C) Interfaces
- D) Packages

8. The \_\_\_\_\_ function creates a regular sequence of values to form a vector.

- A) Rep
- B) Seq
- C) Grep
- D) Sequel

9. Which function is used to enter data at the terminal?

- A) Scnn
- B) Sccn
- C) Scan
- D) Scanned

10. To bind a row onto an already existing matrix, the \_\_\_\_\_ function can be used.

- A) Sbind
- B) Sblind
- C) Rbind
- D) Gbind

## Test 08

1. Which of the following is a 3-dimensional dataset?

- A) Iris
- B) Eris
- C) Toris
- D) Iris

2. Accessing elements is achieved through a process called \_\_\_\_\_.

- A) Outdexing
- B) Indexing
- C) Scrapping
- D) Highlighting

3. Which are indexed by either row or column using a specific name or number?

- A) Data frames
- B) Data
- C) Datasets
- D) Functions

4. What should we use to access elements with a value greater than five?

- A) Interfaces
- B) Packages
- C) Use functions
- D) Subsetting Commands

5. Lists can be created using the \_\_\_\_\_ function.

- A) List
- B) Matrix.ll
- C) Matrix.llists
- D) Lists.matrix

6. How can we access the first component of the list?

- A) Tools
- B) Package
- C) Function
- D) Number of the Position

7. The \_\_\_\_\_ function returns a list of densities (y) corresponding to bin values (x).

- A) Lists
- B) Spline
- C) Locator
- D) Density

8. Joining two lists can be achieved either using the \_\_\_\_\_ function.

- A) Join
- B) Delete
- C) Concat
- D) Reduce

9. The length of a list is \_\_\_\_\_ to the number of components in that list.

- A) Equal
- B) Triple
- C) Double
- D) One fourth

10. The first component can be accessed using \_\_\_\_\_ operator.

- A) OR
- B) AND
- C) Interaction
- D) Extraction

## Test 09

1. The \_\_\_\_\_ function takes an arbitrary number of arguments and concatenates them one by one into character strings.

- A) copy()
- B) del()
- C) bind()
- D) paste()

2. Which of the following is valid assignment in R?

- A) >x<-fact(c("yes", "yes", "no", "yes", "no"))
- B) >x<-factor(c("yes", "yes", "no", "yes", "no"))
- C) >x<-factor(factor("yes", "no", "yes", "no"))
- D) >x<-factor(factor("yes", "yes", "no", "yes", "no"))

3. What will be the output of the following R code?

```
>x <- vector("list", length = 5)  
>x
```

- A)
- B) 1
- C) 4
- D) NULL

4. What will be the output of the following R code?

```
>x <- factor(c("yes", "yes", "no", "yes", "no"))  
>table(x)
```

- A) yes no  
2 3
- B) no yes  
2 3
- C) no yes  
2 2
- D) yes yes  
6 2

5. What will be the output of the following R code?

```
>x <- c(1, 2, NaN, NA, 4)  
>is.na(x)
```

- A) FALSE TRUE TRUE TRUE FALSE
- B) TRUE FALSE TRUE TRUE FALSE
- C) FALSE FALSE TRUE TRUE FALSE
- D) TRUE FALSE TRUE FALSE FALSE

6. Data frames can be converted to a matrix by calling data \_\_\_\_\_

- A) as.matrix()
- B) as.matri()
- C) as.mat()
- D) as.max()

7. What will be the output of the following R code?

```
>x <- data.frame(foo = 1:4, bar = c(T, T, F, F))  
>ncol(x)
```

- A) 2
- B) 4
- C) 7
- D) 9

8. What will be the output of the following R code?

```
>m <- matrix(1:4, nrow = 2, ncol = 2)  
>dimnames(m) <- list(c("a", "b"), c("c", "d"))  
>m
```

- A) c d  
a 1 3  
b 2 4
- B) c d  
a 1 2  
b 2 3
- C) c d  
a 1 3  
b 4 2
- D) Error

9. Which of the following statement changes column name to h and f?

- A) rownames(m) <- c("f", "f")
- B) rownames(m) <- c("h", "f")
- C) columnnames(m) <- c("h", "f")
- D) colnames(m) <- c("h", "f")

10. Which of the following statement would read file "foo.txt"?

- A) data <- data("foo.txt")
- B) data <- read.data("foo.txt")
- C) data <- read.table("foo.txt")
- D) read.data <- read.table("foo.txt")

## Test 10

1. Which of the following is used for reading tabular data?

```
> y <- data.frame(a = 1, b = "a")
> dput(y, file = "y.R")
> new.y <- dget("y.R")
> new.y
```

- A) 

b	a
1	a
- B) 

a	b	
1	1	a
- C) 

a	b	
2	1	a
- D) 

a	b	
1	2	b

2. Individual R objects can be saved to a file using the \_\_\_\_\_ function.

- A) Save
- B) Put
- C) Get
- D) save\_image

3. Which of the following R statement will save the output to the file for following R code?

```
> a <- data.frame(x = rnorm(100), y = runif(100))
> b <- c(3, 4, 4, 1 / 3)
```

- A) `keep(a, b, file = "mydata.rda")`
- B) `keep_image(a, b, file = "mydata.rda")`
- C) `save(a, b, file = "mydata.rda")`
- D) `save_image(a, b, file = "mydata.rda")`

4. Which of the following statement will load the objects to the file named "mydata.RData"?

- A) `put("mydata.RData")`
- B) `load("mydata.RData")`
- C) `save("mydata.RData")`
- D) `loadAll("mydata.RData")`

5. Which of the following R code creates a connection to 'foo.txt'?

- A) `open(con, "r")`
- B) `ocon(con, "r")`
- C) `opencon(con, "r")`
- D) `con <- file("foo.txt")`

6. Which of the following opens connection to gz-compressed text file?

- A) `con <- gzfile("words.gz")`
- B) `con <- gzfile2("words.gz")`
- C) `con <- gzipfile("words.gz")`
- D) `con <- gzfiles2("words.gz")`

7. Which of the following code opens a connection to the file foo.txt, reads from it, and closes the connection when its done?

- A) `data <- read.csv("foo.txt")`
- B) `data <- read.csv("foo.txt")`
- C) `data <- getonly.csv("foo.txt")`
- D) `data <- readonly.csv("foo.txt")`

8. Which of the following extracts first element from the following R vector?

```
> x <- c("a", "b", "c", "d", "a")
```

- A) `x[0]`
- B) `x[1]`
- C) `x[2]`
- D) `x[10]`

9. Which of the following extracts first four element from the following R vector?

```
> x <- c("a", "b", "c", "d", "a")
```

- A) `x[1:4]`
- B) `x[4:3]`
- C) `x[0:3]`
- D) `x[0:4]`

10. What will be the output of the following R code?

```
> x <- matrix(1:6, 2, 3)
> x[, , drop = FALSE]
```

- A) 

[1,1]	[1,2]	[1,3]
[1,1]	[1,2]	[1,3]
- B) 

[1,1]	[1,2]	[1,3]
[1,1]	[1,2]	[1,3]
- C) 

[1,1]	[1,2]	[1,3]
[1,1]	[1,2]	[1,3]
- D) Error

## Test 11

2. \_\_\_\_\_ extract a subset of rows from a dataframe based on logical conditions.

- A) set
- B) filter
- C) subset
- D) rename

3. \_\_\_\_\_ add new variables/columns or transform existing variables.

- A) add
- B) apped
- C) mutate
- D) arrange

4. The dplyr package can be installed from CRAN using \_\_\_\_\_

- A) install.packages("dplyr")
- B) installed.packages("dplyr")
- C) installall.packages("dplyr")
- D) installed.packages("dplyr")

5. The dplyr package can be installed from GitHub using the \_\_\_\_\_ package.

- A) dev
- B) devdel
- C) devtool
- D) devtools

6. Which of the following is apply function in R?

- A) apply()
- B) tapply()
- C) fapply()
- D) rapply()

7. Functions are defined using the \_\_\_\_\_ directive and are stored as R objects.

- A) fun()
- B) funct()
- C) function()
- D) functions()

8. What will be the output of the following R code?

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

- A) "function"
- B) "class"
- C) "system"
- D) "procedure"

9. What will be the output of the following R code?

```
> f <- function(num) {  
+ hello <- "Hello, world!\n"  
+ for(i in seq_len(num)) {  
+   cat(hello)  
+ }  
+ chars <- nchar(hello) * num  
+ chars  
+ }  
> meaningoflife <- f(3)  
> print(meaningoflife)
```

- A) 22
- B) 32
- C) 42
- D) 62

10. R Commander is used to \_\_\_\_\_ in R.

- A) Use data
- B) Export data
- C) Import data
- D) Work on data

## Test 12

2 . CRAN package ecosystem has more than \_\_\_\_\_ packages.

- A) 6000
- B) 7000
- C) 8000
- D) 9000

3 . Which function in R language is used to find out whether the means of 2 groups are equal to each other or not?

- A) f.tests()
- B) t.tests()
- C) l.tests()
- D) None of the above

4 . \_\_\_\_\_ is the easiest method for reshaping the data before analysis.

- A) Package
- B) Function
- C) Structure()
- D) Transpose()

5 . \_\_\_\_\_ function is used to apply an expression for a given dataset.

- A) That()
- B) This()
- C) With()
- D) Unwith()

6 . \_\_\_\_\_ function can be used to add datasets in R provided with the columns in the datasets should be the same.

- A) rbind()
- B) jbind()
- C) bbind()
- D) hbind()

7 . What is the memory limit in R for 64 bit system?

- A) 8 TB
- B) 10 TB
- C) 12 TB
- D) 16 TB

8 . What is the memory limit in R for 32 bit system?

- A) 11GB
- B) 3GB
- C) 8 TB
- D) 10TB

9 . \_\_\_\_\_ function is used in applying a function each level of factors.

- A) By()
- B) To()
- C) With()
- D) Here()

10 . How do you create log linear models in R language?

- A) logfn()
- B) loghy()
- C) loglm()
- D) logmn()

## Test 13

2. \_\_\_\_\_ measures the probability of the binary response variable in R language.
- A) Statistics  
 B) Simpler Regression  
 C) Multivariate Regression  
 D) Logical Regression
3. \_\_\_\_\_ function will measure the probability of the binary response variable in R language.
- A) Jlm()  
 B) Glm()  
 C) Gimi()  
 D) Gelmi()
4. \_\_\_\_\_ function can be used to select the random sample of size 'n' from a huge dataset.
- A) Sample()  
 B) Simple()  
 C) Signal()  
 D) While()
5. Which function is used to select variables and observations from a given dataset?
- A) While()  
 B) Signal()  
 C) Subset()  
 D) Sample()
6. How will you check if an element is present in a vector?
- A) Match()  
 B) Search()  
 C) Dismatch()  
 D) Mismatch()
7. Warnings are generated by the \_\_\_\_\_ function.
- A) run()  
 B) warning()  
 C) error()  
 D) message()
8. To get the current date, the \_\_\_\_\_ function will return a Date object which can be converted to a different class if necessary.
- A) Sys.Time  
 B) DateTime  
 C) Sys.DateTime  
 D) Sys.Date
9. What will be the output of the following R code?
- ```
> printmessage <- function(x) {  
+   if(x > 0)  
+     print("x is greater than zero")  
+   else  
+     print("x is less than or equal to zero")  
+   invisible(x)  
+ }  
> printmessage(NA)
```
- A) Error  
 B) Warning  
 C) Messages  
 D) Null
10. What will be the output of the following R code snippet?
- ```
> lm <- function(x) { x * x }  
> lm
```
- A) func(x){x\*x}  
 B) function{x\$x}  
 C) function(x){x\*x}  
 D) function(x){x/x}

## Test 14

2. The \_\_\_\_\_ for R are the main feature that make it different from the original S language.

- A) scoping rules
- B) closure rules
- C) environment rules
- D) closure & environment rules

3. What will be the output of the following R code snippet?

```
> g <- function(x) {  
+   a <- 3  
+   x+a+y  
+   ## 'y' is a free variable  
+ }  
> g(2)
```

- A) 8
- B) 9
- C) 10
- D) Error

4. The \_\_\_\_\_ function is a kind of "constructor function" that can be used to construct other functions.

- A) keep.pow()
- B) make.pow()
- C) keep.power()
- D) make.power()

5. \_\_\_\_\_ loop over a list and evaluate a function on each element.

- A) lapply()
- B) apply()
- C) sapply()
- D) mapply()

6. \_\_\_\_\_ function is same as lapply in R.

- A) sapply()
- B) apply()
- C) lapply()
- D) mapply()

7. \_\_\_\_\_ is used to apply a function over subsets of a vector.

- A) tapply()
- B) lapply()
- C) apply()
- D) mapply()

8. lapply functions takes \_\_\_\_\_ arguments in R language.

- A) two
- B) three
- C) four
- D) five

9. What will be the value of following R expression?

- A) Warning in log(c(-1, 2)): NaNs produced
- B) Error in log(c(-1, 2)): NaNs produced
- C) Message
- D) All of the above

10. The recover() function will first print out the function call stack when an \_\_\_\_\_ occurs.

- A) Error
- B) delete
- C) Warning
- D) Messages

## Test 15

2. \_\_\_\_\_ evaluate the cumulative distribution function for a Normal distribution.

- A) rpois
- B) rnorm
- C) pnorm
- D) dnorm

3. Which of the following evaluate the Normal probability density (with a given mean/SD) at a point?

- A) rpois
- B) dnorm
- C) rnorm
- D) pnorm

4. \_\_\_\_\_ is the most common probability distribution to work with.

- A) Paradox
- B) Gaussian
- C) Simulation
- D) Parametric

5. What will be the output of the following R code?

```
> pnorm(2)
```

- A) 0.6772499
- B) 0.9772499
- C) 1.9772499
- D) 2.6772499

6. \_\_\_\_\_ is a systematic way to examine how much time is spent in different parts of a program.

- A) Profiling
- B) Logging
- C) Monitoring
- D) Debugging

7. R comes with a \_\_\_\_\_ to help you optimize your code and improve its performance.

- A) profiler
- B) monitor
- C) browser
- D) debugger

8. The \_\_\_\_\_ function computes the time (in seconds) needed to execute an expression.

- A) system.deb()
- B) system.timedeb()
- C) system.time()
- D) system.datetime()

9. system.time function returns an object of class \_\_\_\_\_ which contains two useful bits of information.

- A) proc\_time
- B) debug\_time
- C) date,time\_time
- D) procedure\_time

10. Parallel processing is done via \_\_\_\_\_ package can make the elapsed time smaller than the user time.

- A) statistics
- B) parallel
- C) symmetry
- D) distributed

## Test 16

2. \_\_\_\_\_ grammar makes a clear distinction between your data and what gets displayed on the screen or page.

- A) d3.js
- B) ggplot1
- C) ggplot2
- D) ggplot3

3. Which of the following cuts numeric vector into intervals of equal length?

- A) cut\_time
- B) cut\_date
- C) cut\_number
- D) cut\_interval

4. Which of the following is a plot to investigate the order in which observations were recorded?

- A) ggorder
- B) ggpccp
- C) ggplot
- D) ggsave

5. \_\_\_\_\_ is used for translating between qplot and base graphics.

- A) translate\_qplot\_gpl
- B) translate\_qplot\_base
- C) translate\_qplot\_lattice
- D) translate\_qplot\_ggplot

6. \_\_\_\_\_ modifies geom/stat aesthetic defaults for future plots.

- A) translate\_qplot\_gpl
- B) translate\_qplot\_base
- C) translate\_qplot\_ggplot
- D) translate\_qplot\_defaults

7. \_\_\_\_\_ is used to create a plot to illustrate patterns of missing values.

- A) ggpccp
- B) ggmissplot
- C) ggmissing
- D) ggfluctuation

8. \_\_\_\_\_ display contours of a 3d surface in 2d.

- A) aes\_gem
- B) aes\_auto
- C) aes\_contour
- D) geom\_contour

9. \_\_\_\_\_ display a smooth density estimate.

- A) aes\_sdensity
- B) geom\_density
- C) geom\_contour
- D) geom\_density2

10. \_\_\_\_\_ is interval represented by a vertical line, with a point in the middle.

- A) printplot
- B) geom\_range
- C) geom\_contour
- D) geom\_pointrange

## Test 17

2. \_\_\_\_\_ is new package that makes it easy to "tidy" your data.

- A) tidyneat
- B) tidy
- C) tidynr
- D) tidyr

3. Which of the following is complementary to tidy?

- A) d3lr
- B) geolr
- C) dplyr
- D) gekl2

4. Which of the following function takes multiple columns?

- A) extract()
- B) gather()
- C) spread()
- D) separate()

5. Which of the following d takes two columns and spreads them into multiple columns?

- A) ggplot
- B) printplot
- C) ggmissplot
- D) print.ggplot

6. Which of the following is a principle of analytic graphics?

- A) Show box plots (univariate summaries)
- B) Show causality, mechanism, explanation
- C) Don't plot more than two variables at at time
- D) Make judicious use of color in your scatterplots

7. Which of the following is true about the base plotting system?

- A) Plots are created and annotated with separate functions
- B) The system is most useful for conditioning plots
- C) Plots are typically created with a single function call
- D) Margins and spacings are adjusted automatically depending on the type of plot and the data

8. Which of the following is an example of a vector graphics device in R?

- A) GIF
- B) PNG
- C) SVG
- D) JPEG

9. Bitmapped file formats can be most useful for \_\_\_\_\_

- A) Plots that may need to be resized
- B) Scatterplots with many many points
- C) Plots that require animation or interactivity
- D) Plots that are not scaled to a specific resolution

10. Which of the following functions is typically used to add elements to a plot in the base graphics system?

- A) plot()
- B) hist()
- C) lines()
- D) boxplot()

## Test 18

2. What does the 'pch' option to `par()` control?

- A) the plotting symbol/character in the base graphics system
- B) the line width in the base graphics system
- C) the orientation of the axis labels on the plot
- D) the size of the plotting symbol in a scatterplot

3. Which of the following code create a n item vector of random normal deviates?

- A) `x1 <- c(rnorm(n))`
- B) `x1 >- c(norm(n))`
- C) `x1 <- c(snorm(n))`
- D) `x1 <- c(pnorm(n))`

4. Which of the following statement can read csv files?

- A) `read.tab(filename,header=TRUE,sep=',')`
- B) `read.tab(filename,header=False,sep=',')`
- C) `read.csv(filename,header=TRUE,sep=',')`
- D) `read.table(filename,header=TRUE,sep=',')`

5. Which of the following statement read a tab or space delimited file?

- A) `read.CSV(filename,header=TRUE)`
- B) `read.table(filename,header=TRUE)`
- C) `read.table(filename,header=False)`
- D) `read.tableall(filename,header=TRUE)`

6. Which of the following statement is another way to get a subset?

- A) `sub(dataset,logical)`
- B) `subcon(dataset,logical)`
- C) `data.df[data.df==logical]`
- D) `subsetcon(dataset,logical)`

7. Which of the following sort a dataframe by the order of the elements in B?

- A) `x[rev(x$B),]`
- B) `x[order(x$B),]`
- C) `x[ordersort(x$B),]`
- D) `x[rev(order(x$B)),]`

8. \_\_\_\_\_ remove all the variables from the workspace.

- A) `rm(list=ls())`
- B) `ls()`
- C) `rm(x)`
- D) `attach(mat)`

9. Which of the following is Mac menu command?

- A) `browse.works`
- B) `browse.workspace`
- C) `browser.workspace`
- D) a statistical transformation

10. Which of the following will reverse the order of values in x?

- A) `all(x)`
- B) `x%in%y`
- C) `rev(x)`
- D) `max(x, na.rm=TRUE)`

## Test 19

2. Which of the following statement applies the function (FUN) to either rows (1) or columns (2) on object X?

- A) col.max(x)
- B) apply(x,1,max)
- C) apply(x,2,max)
- D) apply(X, MARGIN, FUN, ...)

3. Which of the following statement finds the maximum for each column?

- A) col.max(x)
- B) apply(x,2,max)
- C) which.min(x)
- D) which.max(x)

4. Which of the following may be used for linear regression?

- A) Solve(A)
- B) X \$\*\\$ Y
- C) X %\*% Y
- D) Solve(A,B)

5. Which of the following sets the size of the outer margins for the graph?

- A) par(ask=False)
- B) par(ask=TRUE)
- C) par(omi=c(0,0,1,0))
- D) par(mfrow=c(nrow,mcol))

6. Which of the following will add the title "R language" to the graph?

- A) title("R language")
- B) var(x, na.rm=TRUE)
- C) titleBar("R language")
- D) titleAdd("R language")

7. \_\_\_\_\_ let's you perform SQL queries on your R data frames.

- A) plyr
- B) daply
- C) sqldf
- D) forecast

8. \_\_\_\_\_ makes it incredibly easy to fit time series models like ARIMA, ARMA, AR, Exponential Smoothing, etc.

- A) stats
- B) plyr
- C) sqldf
- D) forecast

9. Which of the following syntax is used to install forecast package?

- A) install.pack("forecast")
- B) install.packages("forecast")
- C) install.packages("cast")
- D) install.pack("forecastcast")

10. Which of the following is similar to Moment.js?

- A) ploy
- B) stringr
- C) lubridate
- D) forecast

## Test 20

2. \_\_\_\_\_ is used to convert wide data to long data.
- A) melt  
 B) cast  
 C) rcast  
 D) dcast
3. \_\_\_\_\_ finds K best paths in a given graph.
- A) kcirt  
 B) kmap  
 C) ktrees  
 D) kBestShortestPaths
4. \_\_\_\_\_ is a package for parsing, applying, and manipulating data cleaning rules
- A) edr  
 B) editrules  
 C) edrtools  
 D) edrGraphicalTools
5. Which of the following package provide namespace management functions not yet present in base R?
- A) stringr  
 B) nbpMatching  
 C) namespace  
 D) messagewarning
6. Which of the following is used to analyze paleontological time-series?
- A) paleoTS  
 B) parfossil  
 C) nbpMatching  
 D) accelerometry
7. \_\_\_\_\_ uniforms and customizes plots of packages ggplot2, graphics and lattice.
- A) uniCox  
 B) uniPlot  
 C) unigraph  
 D) unknownR
8. What will be the output of the following R code?  
`install.packages(c("devtools", "roxygen2"))`
- A) Exits R studio  
 B) Develops the tools  
 C) Installs the given packages  
 D) Nothing happens
9. To start with the new package in RStudio, double-click the `pkname.Rproj` file that \_\_\_\_\_
- A) Exit()  
 B) Run()  
 C) Delete()  
 D) Create()
10. If you have an existing package that doesn't have an `.Rproj` file, you can use `devtools` for the `use_studio("_____/to/package")` to add it.
- A) Path  
 B) Class  
 C) Function  
 D) Package

## Test 21

2. \_\_\_\_\_ are built in R so that you get HTML.

- A) Bignats
- B) Viddnets
- C) Vignettes
- D) Vighnaants

3. Files listed in the Rbuildignore are not included in the \_\_\_\_\_.

- A) single
- B) bundle
- C) double
- D) source

4. .Rbuildignore prevents files in the \_\_\_\_\_ package from appearing in the bundled package.

- A) single
- B) bundle
- C) double
- D) source

5. Which of the following finds the position of a quantile in a dataset?

- A) quantile()
- B) rep()
- C) barplot()
- D) barchart()

6. Which of the following function cross-tabulate tables using formulas?

- A) read
- B) stem
- C) table
- D) xtabs

7. Which of the following groups find the correlation matrix?

- A) stem
- B) col.max(x)
- C) factor.model
- D) which.max(x)

8. Which of the following compute proportions from a contingency table?

- A) par()
- B) prop.table()
- C) anova()
- D) mosaicplot()

9. Which of the following convert a matrix of phi coefficients to polychoric correlations?

- A) phi2poly
- B) poly()
- C) qline()
- D) multi.plot()

10. Which of the following count the number of good cases when doing pairwise analysis?

- A) count() +
- B) count.poly()
- C) anova пара()
- D) count.pairwise

## Test 22

<p>2. What plot(s) are used to view the linear regression?</p> <p><input type="radio"/> A) Box plot <input type="radio"/> B) Scatterplot <input type="radio"/> C) Density plot <input type="radio"/> D) Scatterplot, Boxplot, Density plot</p>
<p>3. In <code>lm(response ~ terms)</code>, terms specification of the form "first*second" is same as _____</p> <p><input type="radio"/> A) first:second <input type="radio"/> B) first+second <input type="radio"/> C) first+second+first:second <input type="radio"/> D) first:second+second:first</p>
<p>4. Predicting y for a value of x that's outside the range of values we actually saw for x in the original data is called _____</p> <p><input type="radio"/> A) Polation <input type="radio"/> B) Extrapolation <input type="radio"/> C) Regression <input type="radio"/> D) Intra polation</p>
<p>5. What is predicting y for a value of x that is within the interval of points that we saw in the original data called?</p> <p><input type="radio"/> A) Intra polation <input type="radio"/> B) Polation <input type="radio"/> C) Regression <input type="radio"/> D) Extrapolation</p>
<p>6. Analysis of variance in short form is?</p> <p><input type="radio"/> A) AVA <input type="radio"/> B) ANVA <input type="radio"/> C) ANOV <input type="radio"/> D) ANOVA</p>
<p>7. _____ is a simple approach to supervised learning. It assumes that the dependence of Y on <math>X_1, X_2, \dots, X_p</math> is linear.</p> <p><input type="radio"/> A) Gradient Descent <input type="radio"/> B) Greedy Algorithms <input type="radio"/> C) Linear regression <input type="radio"/> D) Logistic regression</p>
<p>8. Although it may seem overly simplistic, _____ is extremely useful both conceptually and practically.</p> <p><input type="radio"/> A) Gradient Descent <input type="radio"/> B) Linear regression <input type="radio"/> C) Greedy algorithms <input type="radio"/> D) Logistic regression</p>
<p>9. The sum of squares of the difference between the observations and the line in the horizontal direction in the scatter diagram can be minimized to obtain the estimates is generally called?</p> <p><input type="radio"/> A) Simple Regression <input type="radio"/> B) Formal Regression <input type="radio"/> C) Cogistic Regression <input type="radio"/> D) Reverse Regression Method</p>
<p>10. In order to calculate confidence intervals and hypothesis tests, it is assumed that the errors are independent and normally distributed with mean zero and _____</p> <p><input type="radio"/> A) SD <input type="radio"/> B) KNN <input type="radio"/> C) Mean <input type="radio"/> D) Variance</p>

## Test 23

2 . The IBM \_\_\_\_\_ analytics appliances combine high-capacity storage for Big Data with a massively-parallel processing platform for high-performance computing.

- A) LitixEQ
- B) Netezza
- C) Watson
- D) InfoSight

3 . \_\_\_\_\_ is rapidly being adopted for computing descriptive and query types of analytics on Big data.

- A) EDR
- B) Hadoop
- C) Azure
- D) InfoSight

4 . \_\_\_\_\_ is a JavaScript charting library and feature-rich API set that lets you build interactive Flash or HTML5 charts.

- A) Alterian
- B) ZingChart
- C) paleoTS
- D) InstantAtlas

5 . \_\_\_\_\_ is proprietary tool for predictive analytics.

- A) R
- B) EDR
- C) SAS
- D) SSAS

6 . Which of the following involves predicting a categorical response?

- A) Classification
- B) Clustering
- C) Regression
- D) Summarization

7 . \_\_\_\_\_ is simplest class of analytics.

- A) Predictive
- B) Prescriptive
- C) Summarization
- D) Descriptive