

MOOC Course - Introduction to R Software

July 2021

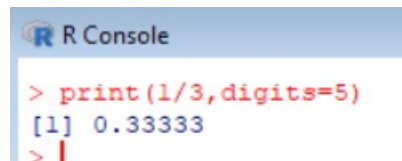
Assignment 5

1. Which one of the following is the correct outcome of the command

`print(1/3,digits=5)` ?

- a. `0.3333`
- b. `0.333`
- c. `0.33333`
- d. None of these

Solution:



```
R Console
> print(1/3,digits=5)
[1] 0.33333
> |
```

2. Which one of the following is the correct outcome of the command

`print("My age is", (20+20)/3, "years.", digits=7)?`

- a. `"My age is" 13.3333333 "years."`
- b. `My age is (20+20)/3 years.`
- c. `"My age is"`
- d. `Error`

Solution:



```
R Console
> print("My age is", (20+20)/3, "years.", digits=7)
[1] "My age is"
> |
```

3. Which one of the following is the correct outcome of the command

`print("My college is"); print(20+30); print("years old.")` ?

a. `[1] "My college is" 50 "years old."`

b. `[1] "My college is"`

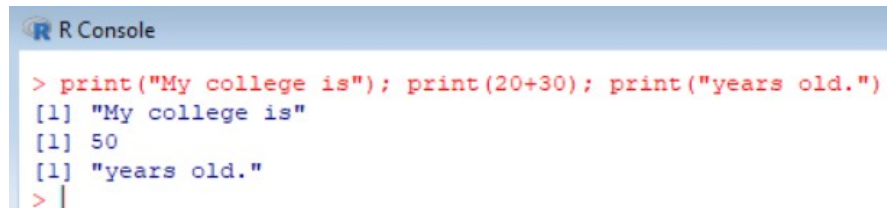
`[1] 50`

`[1] "years old."`

c. `[1] "My college is" 20+30 "years old."`

d. Error

Solution:



```
R Console
> print("My college is"); print(20+30); print("years old.")
[1] "My college is"
[1] 50
[1] "years old."
> |
```

4. Let `x <- 'Introduction to R Software!\n'` then which one of the following is the correct outcome of the commands `print(x)` and `cat(x)` ?

a.

`[1] Introduction to R Software!\n`

and

`[1] Introduction to R Software!\n`

b.

`[1] "Introduction to R Software!"`

and

`Introduction to R Software!\n`

c.

`[1] "Introduction to R Software!"`

and

`Introduction to R Software!\n`

d.

```
[1] "Introduction to R Software!\n"
```

and

```
Introduction to R Software!
```

Solution:

```
R Console
> x <- 'Introduction to R Software!\n'
> print(x)
[1] "Introduction to R Software!\n"
> cat(x)
Introduction to R Software!
> |
```

5. Which one of the following is the correct outcome of the command

```
print(paste("R Software", 10* 2:4))?
```

a. [1] "R Software 10*2" "R Software 10*3" "R Software 10*4"

b. [1] "R Software 20" "R Software 30" "R Software 40"

c. [1] "R Software 10*2 10*3 10*4"

d. [1] R Software 20 R Software 30 R Software 40

Solution:

```
R Console
> print(paste("R Software", 10* 2:4))
[1] "R Software 20" "R Software 30" "R Software 40"
> |
```

6. Which one of the following is the correct outcome of the commands

```
x <- 2
cat("The cube of", "x", "is", x^3, "and the square of x is",
x^2, "!\n") ?
```

- a. The cube of 2 is 8 and the square of 2 is 4 !
- b. The cube of x is x^3 and the square of x is x^2 !
- c. "The cube of" "x" "is" 8 "and the square of x is" 4!\n
- d. The cube of x is 8 and the square of x is 4 !

Solution:

```
R Console
> x <- 2
> cat("The cube of", "x", "is", x^3, "and the square of x is", x^2, "!\n")
The cube of x is 8 and the square of x is 4 !
> |
```

7. Which one of the following is the correct outcome of the command

```
cat("The value of 4/3", "is approximately",
format(4/3,digits=3),"\n") ?
```

- a. "The value of 4/3 is approximately" 1.33
- b. The value of 4/3 is approximately 1.333
- c. The value of 4/3 is approximately 1.33
- d. "The value of 4/3 is approximately 1.33"

Solution:

```
R Console
> cat("The value of 4/3", "is approximately", format(4/3,digits=3),"\n")
The value of 4/3 is approximately 1.33
> |
```

8. Which one of the following is the correct outcome of the command

```
paste("R Course", "will start from", c("10 Jul 2017", "10 Jul 2018"), collapse=", and ") ?
```

a. `[1] "R Course will start from 10 Jul 2017, and 10 Jul 2018"`

b.

```
[1] "R Course will start from 10 Jul 2017, and R Course will start from 10 Jul 2018"
```

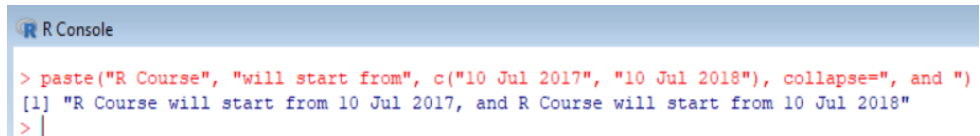
c.

```
[1] "R Course will start from 10 Jul 2017, 10 Jul 2018"
```

d.

```
[1] "R Course will start from" "10 Jul 2017" and "10 Jul 2018"
```

Solution:

A screenshot of an R Console window. The title bar says "R Console". The console shows the command `> paste("R Course", "will start from", c("10 Jul 2017", "10 Jul 2018"), collapse=", and ")` and the output `[1] "R Course will start from 10 Jul 2017, and R Course will start from 10 Jul 2018"`. The prompt `>` is on the next line.

```
> R Console
> paste("R Course", "will start from", c("10 Jul 2017", "10 Jul 2018"), collapse=", and ")
[1] "R Course will start from 10 Jul 2017, and R Course will start from 10 Jul 2018"
>
```

9. Which one of the following is the correct outcome of the command

```
paste("Solution of problem", 1:3, sep="*") ?
```

a.

```
[1] "Solution of problem*1 problem*2 problem*3"
```

b.

```
[1] "Solution of problem 1 * problem 2 * problem 3"
```

c.

```
[1] "Solution of problem*1 and problem*2 and problem*3"
```

d.

```
[1] "Solution of problem*1" "Solution of problem*2" "Solution of problem*3"
```

Solution:

```
R Console
> paste("Solution of problem", 1:3, sep="*")
[1] "Solution of problem*1" "Solution of problem*2" "Solution of problem*3"
> |
```

10. Which one of the following is the correct outcome of the command
`paste("Solution of problem", 2:4, sep="+",collapse="")` ?

a.

```
[1] "Solution of problem+2Solution of problem+3Solution of problem+4"
```

b.

```
[1] "Solution of problem 2" + "Solution of problem 3" +  
"Solution of problem 4"
```

c.

```
[1] "Solution of problem+2+3+4"
```

d.

```
[1] "Solution of problem 2 + Solution of problem 3 + Solution of problem 4"
```

Solution:

```
R Console
> paste("Solution of problem", 2:4, sep="+",collapse="")
[1] "Solution of problem+2Solution of problem+3Solution of problem+4"
> |
```

11. Which one of the following is the correct outcome of **y** where

y=strsplit("Solution of problem 20-Solution of problem 30-Solution of problem 40","-") ?

a.

```
[[1]]  
[1] "Solution of problem 20-30-40"
```

b.

```
[[1]]  
[1]  
y=strsplit("Solution of problem 20-Solution of problem 30-Solution of problem 40"
```

c.

```
[[1]]  
[1] "Solution of problem 20" "Solution of problem 30"  
"Solution of problem 40"
```

d.

```
[[1]]  
[1] "Solution of problem 20"- "Solution of problem  
30"- "Solution of problem 40"
```

Solution:

```
R Console  
> y=strsplit("Solution of problem 20-Solution of problem 30-Solution of problem 40","-")  
> y  
[[1]]  
[1] "Solution of problem 20" "Solution of problem 30" "Solution of problem 40"  
> |
```

12. Let

```
y=strsplit("Student A gets 20 marks- Student B gets 30 marks-  
Student C gets 40 marks","-")
```

Which one of the following is the correct command to get the outcome of **y** as

"Student B gets 30 marks" ?

a. `y[1][2]`

b. `y[2][2]`

c. `y[[1]][2]`

d. `[[2]][1]`

Solution:

```
R Console  
  
> y=strsplit("Student A gets 20 marks- Student B gets 30 marks- Student C gets 40 marks","-")  
> y[[1]][2]  
[1] " Student B gets 30 marks"  
> y[1][2]  
[[1]]  
NULL  
  
> y[2][2]  
[[1]]  
NULL  
  
> [[2]][1]  
Error: unexpected '[' in "[["  
> |
```

13. Which one of the following is the correct outcome of the command

```
nchar("Was Czechoslovakia or Czecho-Slovakia a sovereign  
state in Central Europe ?") ?
```

a. 66

b. 67

c. 75

d. 76

Solution:

```
R Console  
  
> nchar("Was Czechoslovakia or Czecho-Slovakia a sovereign state in Central Europe ?")  
[1] 76  
> |
```


14. Which one of the following is the correct outcome of the command `sub("25", "26", "R Course will start from 25 July") ?`

- a. `[1] "R Course will start from 25 July"`
- b. `[1] "R Course will start from 26 July"`
- c. `[1] "R Course will start from 25-26 July"`
- d. `[1] "R Course will start from 25,26 July"`

Solution:

```
R Console
> sub("25", "26", "R Course will start from 25 July" )
[1] "R Course will start from 26 July"
> |
```

15. Which one of the following is the correct outcome of the command `gsub("R Course", "S-plus Course", "R Course - 25 July. R Course - 30 July")?`

- a. `[1] "S-plus Course - 25 July. S-plus Course - 30 July"`
- b. `[1] " R Course - 25 July. R Course - 30 July"`
- c. `[1] "R Course - 25 July." "S-plus Course - 30 July"`
- d. `[1] "S-Plus Course - 25 July." "R Course - 30 July"`

Solution:

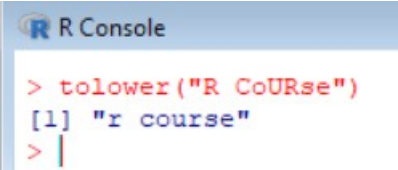
```
R Console
> gsub("R Course", "S-plus Course", "R Course - 25 July. R Course - 30 July")
[1] "S-plus Course - 25 July. S-plus Course - 30 July"
> |
```

16. Which one of the following is the correct outcome of the command

`tolower("R CoURse")` ?

- a. `[1] R Course`
- b. `[1] "r course"`
- c. `[1] R course`
- d. `[1] r course`

Solution:



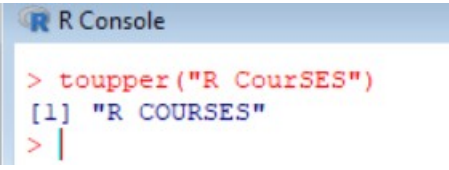
```
R Console
> tolower("R CoURse")
[1] "r course"
> |
```

17. Which one of the following is the correct outcome of the command

`toupper("R CourSES")` ?

- a. `[1] r cOURses`
- b. `[1] r courses`
- c. `[1] "R COURSES"`
- d. `[1] R CourSES`

Solution:



```
R Console
> toupper("R CourSES")
[1] "R COURSES"
> |
```

18. Which one of the following is the correct outcome of the command

`grep("ab", c("abc", "def", "cbaba", "adaba"))` ?

- a. `[1] "def"`
- b. `[1] "abc", "cbaba", "adaba"`
- c. `[1] 1 3 4`
- d. `[1] 2`

Solution:

```
R Console
> grep("ab", c("abc", "def", "cbaba", "adaba"))
[1] 1 3 4
> |
```

19. Which one of the following is the correct outcome of the command

`grep("[a-d]", letters)` ?

- a. `[1] a-d`
- b. `[1] a b c d`
- c. `[1] a-b-c-d`
- d. `[1] 1 2 3 4`

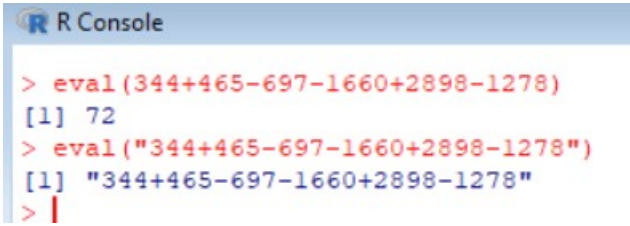
Solution:

```
R Console
> grep("[a-d]", letters)
[1] 1 2 3 4
> |
```

20. Which one of the following are the correct outcomes of the commands `eval(344+465-697-1660+2898-1278)` and `eval("344+465-697-1660+2898-1278")` ?

- a. 72 and "344+465-697-1660+2898-1278" respectively.
- b. 344+465-697-1660+2898-1278 and "72" respectively.
- c. 72 and 344+465-697-1660+2898-1278 respectively.
- d. 72 and "72" respectively.

Solution:



```
R Console
> eval(344+465-697-1660+2898-1278)
[1] 72
> eval("344+465-697-1660+2898-1278")
[1] "344+465-697-1660+2898-1278"
> |
```

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Answers of Assignment 5

1. c
2. a
3. b
4. d
5. b
6. d
7. c
8. b
9. d
- 10 a
11. c
12. c
13. d
14. b
15. a
16. b
17. c
18. c
19. d
20. a