

## Unit 5 - Week 4 - Data management with repeats, sorting, ordering, and lists

**Week - 1 - Basic fundamentals, installation and use of software, data editing, use of R as a calculator, functions and assignments.**

**Week 2 - Use of R as a calculator, functions and matrix operations, missing data and logical operators.**

**Week 3 - Conditional executions and loops, data management with sequences.**

**Week 4 - Data management with repeats, sorting, ordering, and lists**

● Lecture 18 - Data management : Lists

● Lecture 19 - Data management: Lists (continued)

● Lecture 20 - Data management : Vector indexing

● Lecture 21 - Data management : Vector Indexing (continued)

● Lecture 22 - Data management: Factors

● Lecture 23 - Data management: factors (continued)

○ Quiz : Assignment 4

● Assignment-4 Solution

**Week 5 - Vector indexing, factors, Data management with strings, display and formatting.**

**Week 6 - Data management with display paste, split, find and replacement, manipulations with alphabets, evaluation**

### Assignment 4

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

`sort(c(20,50, 10, 30, 90,70, 80), decreasing = FALSE)?`

- ☐ 1 2 3 5 7 8 9
- ☐ 9 8 7 5 3 2 1
- ☐ 10 20 30 50 70 80 90
- ☐ 90 80 70 50 30 20 10

**Accepted Answers:**

10 20 30 50 70 80 90

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

`sort (c(20,50, 10, 30, 90,70, 80), increasing = TRUE)?`

- ☐ 10 20 30 50 70 80 90
- ☐ 90 80 70 50 30 20 10
- ☐ 1 2 3 5 7 8 9
- ☐ Error...

**Accepted Answers:**

Error...

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

`order(c(20,50, 10, 30, 90,70, 80), decreasing = FALSE)?`

- ☐ 1 2 3 4 5 6 7
- ☐ 1 4 3 2 5 7 6
- ☐ 3 1 4 2 6 7 5
- ☐ 3 1 4 5 7 6 2

**Accepted Answers:**

3 1 4 2 6 7 5

4) Which one of the following is the correct outcome of the command

`mode(c(1, 2, "3", 8+9, "7+9", 6.7, 110*45))?`

- ☐ character
- ☐ numeric
- ☐ list
- ☐ data frame

**Accepted Answers:**

character

5) Which one of the following is the correct outcome of the command `x[[2]]` where

`x <-list (c("name1", "name2"), seq(from=5, to=7), rep(8:10, each=2)) ?`

1 point

1 point

1 point

1 point

1 point

of strings, data frames.

Week 7 - Data frames, import of external data in various file formats, statistical functions, compilation of data.

Week 8 - Graphics and plots, statistical functions for central tendency, variation, skewness and kurtosis, handling of bivariate data through graphics, correlations, programming and illustration with examples.

- ☐ 6  
☐ 99  
☐ 5 6 7  
☐ "name2"

**Accepted Answers:**

5 6 7

6) Which one of the following is the correct outcome of the command `x[[2]][2]` where

```
x <-list (c("name1", "name2"), seq(from=5, to=7), rep(8:10, each=2))
```

gives an output as

- ☐ 5 6 7  
☐ 6  
☐ 99  
☐ "name2"

1 point

**Accepted Answers:**

6

7) Which one of the following is the correct outcome of the command `x[2][2]` where

```
x <-list (c("name1", "name2"), seq(from=5, to=7), rep(8:10, each=2)) ?
```

- ☐ 5 6 7  
☐ 6  
☐ 99  
☐ "NULL"

1 point

**Accepted Answers:**

"NULL"

8) Which one of the following is the correct outcome of the command `x[[3]]` where

```
x <-list (c("name1", "name2"), seq(from=5, to=7), rep(8:10, each=2)) ?
```

- ☐ 7  
☐ 8 8 9 9 10 10  
☐ 8 9 10 8 9 10  
☐ 10 10 9 9 8 8

1 point

**Accepted Answers:**

8 8 9 9 10 10

9) Which one of the following is the correct outcome of the command `x[(x>50)]` where

```
x <- c(10, 75, 20, 35, 30, 40, 180, 50, 60, 27, 70, 67, 80, 50, 39, 120) ?
```

- ☐ 75 180 60 70 67 80 120  
☐ 10 20 35 30 40 27 39  
☐ TRUE  
☐ FALSE

1 point

**Accepted Answers:**

75 180 60 70 67 80 120

10) Which one of the following is the correct outcome of the command `x[(x - 20 > 40)]` where

```
x <- c(10, 75, 20, 35, 30, 40, 180, 50, 60, 27, 70, 67, 80, 50, 39, 120) ?
```

- ☐ 10 20 35 30 40 50 27 50 39  
☐ 75 180 70 67 80 120  
☐ NULL  
☐ None of these

1 point

**Accepted Answers:**

75 180 70 67 80 120

11) Which one of the following is the correct outcome of the command `x[(x^2 + 10 > 50)]` where `x <- c(40, 25, 80, 45, 39, 43, 120, 20, 70, 87, 170, 167, 180, 150, 139, 120)`? 1 point

- ☐ 80 45 43 120 70 87 170 167 180 150 139 120
- ☐ 75 180 70 67 80 120
- ☐ 40 25 80 45 39 43 120 20 70 87 170 167 180 150 139 120
- ☐ 80 120 70 87 170 167 180 150 139 120

Accepted Answers:

40 25 80 45 39 43 120 20 70 87 170 167 180 150 139 120

12) If `y <- 10:20` then which one of the following is the correct outcome of the command `y[-(1:9)]`? 1 point

- ☐ -19 -20
- ☐ 19 20
- ☐ 10 11 12 13 14 15 16 17 18
- ☐ -10 -11 -12 -13 -14 -15 -16 -17 -18

Accepted Answers:

19 20

13) Consider the list `z <- list(x1 = "name1", x2 = 10:15)`. Which of the following is the correct command to change the element `x2` by `y2`? 1 point

- ☐ `names(z)[2] = y2`
- ☐ `names(z)[2] = "y2"`
- ☐ `change.names(z)[2] = "y2"`
- ☐ `name.change(z)[2] = "y2"`

Accepted Answers:

`names(z)[2] = "y2"`

14) Consider the list `z <- list(x1 = "name1", x2 = 10:15)`. Which one of the following is the correct outcome of the command `z["x2"]`? 1 point

- ☐ `[1] "name1"`
- ☐ `[1] "10:15"`
- ☐ `[1] 15 14 13 12 11 10`
- ☐ `[1] 10 11 12 13 14 15`

Accepted Answers:

`[1] 10 11 12 13 14 15`

15) Which one of the following is the correct outcome of the command `factor(c(1,1,2,2,3,3))`? 1 point

- ☐ `[1] 1 1 2 2 3 3`  
`Levels: 1 2 3`
- ☐ `[1] 1 2 3`  
`Levels: 1 2 3`
- ☐ `[1] 1 2 3`  
`Levels: 1 1 2 2 3 3`
- ☐ None

Accepted Answers:

`[1] 1 1 2 2 3 3`

`Levels: 1 2 3`

16) Which one of the following is the correct outcome of the following commands? 1 point

- ```
data = c(1,1,2,2,3,3)
factor(data)
levels(data) = c('I', 'II', 'III')
data
```
- ☐ `[1] 1 1 2 2 3 3`  
`attr(,"levels")`  
`[1] "I" "II" "III"`

☐ [1] 1 2 3  
 attr(,"levels")  
 [1] "I" "II" "III"  
☐ [1] I I II II III III  
 Levels: 1 2 3  
☐ None of these

**Accepted Answers:**

```
[1] 1 1 2 2 3 3
attr(,"levels")
[1] "I" "II" "III"
```

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

1 point

```
x=factor(c(1,2,2,5,1,2,1,5),levels=c(1,2,5),ordered=TRUE)?
```

☐ [1] 1 < 2 < 5  
 Levels: 1 2 2 5 1 2 1 5  
☐ [1] 1 2 5  
 Levels: 1 2 2 5 1 2 1 5  
☐ [1] 1 2 2 5 1 2 1 5  
 Levels: 1 < 2 < 5  
☐ None of these

**Accepted Answers:**

```
[1] 1 2 2 5 1 2 1 5
Levels: 1 < 2 < 5
```

18) Which one is the correct outcome of the command

1 point

```
factor( c(rep("male",2), rep("female", 3)))?
```

☐ [1] female female female male male  
 Levels: female male  
☐ [1] female female male male male  
 Levels: female male  
☐ [1] male male male female female  
 Levels: female male  
☐ [1] male male female female female  
 Levels: female male

**Accepted Answers:**

```
[1] male male female female female
Levels: female male
```

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

1 point

```
unclass(factor(c("lemonade","juice","water","juice","lemonade"),levels=c("juice","lemonade","water"))
```

☐ [1] 2 1 3 1 2  
 attr(,"levels")  
 [1] "juice" "lemonade" "water"  
☐ [1] 2 3 1 3 2  
 attr(,"levels")  
 [1] "juice" "lemonade" "water"  
☐ [1] 2 1 3 1 2  
 attr(,"levels")  
 [1] "lemonade" "juice" "water"  
☐ [1] 1 3 2 3 1  
 attr(,"levels")  
 [1] "lemonade" "juice" "water"

**Accepted Answers:**

```
[1] 2 1 3 1 2
attr(,"levels")
[1] "juice" "lemonade" "water"
```

20) Which one of the following is the correct outcome of the command

1 point

```
as.factor(c(1, 2, 2, 3, 3, 3))?
```

☐ [1] 1 2 3  
Levels: 1 2 3

☐ [1] 3 2 2 1 1 1  
Levels: 1 2 3

☐ [1] 1 2 2 3 3 3  
Levels: 1 2 3

☐ [1] 1 2 2 3 3 3  
Levels: 3 2 1

**Accepted Answers:**

[1] 1 2 2 3 3 3  
Levels: 1 2 3