MOOC Course - Introduction to R Software

July 2021

Assignment 6

1. Which one of the following are the correct commands to obtain the names of rows and columns in a data frame `master` ?

a. `rownames(master)` and `colnames(master)` respectively.

b. `rowname(master)` and `colname(master)` respectively.

c. `rown(master)` and `coln(master)` respectively.

d. `rnames(master)` and `cnames(master)` respectively.

2. Which one of the following is the correct command to obtain the dimension, name, and type of each variable in a data frame `master` ?

a. `string(master)`

b. `strname(master)`

c. `str(master)`

d. `stringname(master)`

3. Which one of the following is the correct command to extract the variable `teacher` from a data frame `master` ?

a. `teacher$master`

b. `name(master$teacher)`

c. `name(teacher$master)`

d. `master$teacher`

4. Which one of the following is the correct command to extract the information on the person whose name is `XYZ` contained in the variable `teacher` from a data frame `master`?

a. `teacher$master$XYZ`

b. `master["XYZ", "teacher"]`

c. `XYZ$master$teacher`

d. `XYZ[master,teacher]`

Answer Question 5-7 on the basis of the following information:

Consider the data frame `painters` in the library MASS. Use command `library(MASS)` to load the library `MASS` and use the command `attach(painters)` to attach the database `painters.`

5. Which one of the following is the correct command to draw information on those painters who have used the "Colour" coded as 10 and are from "School" F from the data frame `painters` and what is the corresponding outcome?

a.

```
subset(painters, Colour==10 & School==F)
```

and

```
           Composition Drawing Colour Expression School
Perugino             4      12     10          4      F
T. Zucarro          13      14     10          9      F
Albani              14      14     10          6      F
```

respectively.

b.

```
subset(painters, Colour='10' & School='F')
```

and

```
                Composition Drawing Colour Expression School
Guercino                 18      10     10          4      E
Lanfranco                14      13     10          5      E
Durer                     8      10     10          8      F
```

respectively.

c.

```
subset(painters, Colour=='10' & School=='F')
```

and

```
      Composition Drawing Colour Expression School
Durer           8      10     10          8      F
```

respectively.

d.

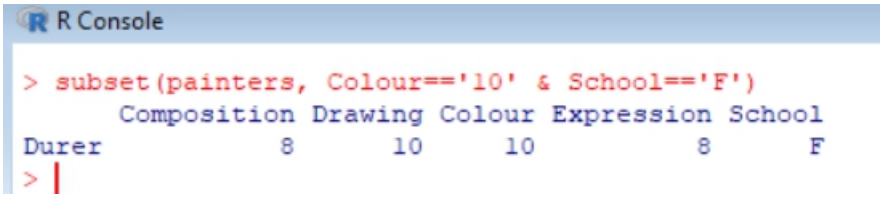
```
subset(painters, Colour ='10' and School=='F')
```

and

	Composition	Drawing	Colour	Expression	School
Perugino	4	12	10	4	A
T. Zucarro	13	14	10	9	B
Albani	14	14	10	6	E
Guercino	18	10	10	4	E
Lanfranco	14	13	10	5	E
Durer	8	10	10	8	F
Otho Venius	13	14	10	10	G

respectively.

Solution:



6. Which one of the following is the correct command to draw the information on those painters who have used the "Drawing" as 10 and "Expression" is less than 13 and what is the output from the data frame `painters`?

a.

```
subset(painters, Drawing=='10' and Expression < 13)
```

and

	Composition	Drawing	Colour	Expression	School
Josepin	10	10	6	2	C
Veronese	15	10	16	3	D
Guercino	18	10	10	4	E

respectively.

b.

```
subset(painters, Drawing=='10' & Expression < 13)
```

and

	Composition	Drawing	Colour	Expression	School
Josepin	10	10	6	2	C
Veronese	15	10	16	3	D
Guercino	18	10	10	4	E
Durer	8	10	10	8	F
Diepenbeck	11	10	14	6	G

respectively.

c.

```
subset(painters, Drawing==10 and Expression < 13)
```

and

	Composition	Drawing	Colour	Expression	School
Josepin	10	10	6	2	C
Veronese	15	10	16	3	D
Guercino	18	10	10	4	E
Durer	8	10	10	8	F
Diepenbeck	11	10	14	6	G

respectively.

d.

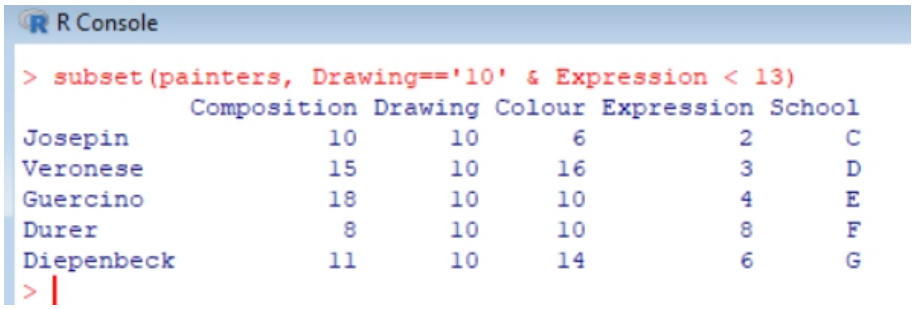
```
subset(painters, Drawing='10' & Expression < 13)
```

and

	Composition	Drawing	Colour	Expression	School
Guercino	18	10	10	4	E
Durer	8	10	10	8	F
Diepenbeck	11	10	14	6	G

respectively.

Solution:



7. Which one of the following is the correct command to draw the information and output on those painters who have used the "Colour" coded as 6, "School" as F when information on the variables "Composition" and "Expression" is removed from the data frame `painters` and its corresponding outcome?

a.

```
subset(painters, School=="F" & Colour=="6", remove=c(1,4))
```

and

	Drawing	Colour	School
Pourbus	15	6	F
Van Leyden	6	6	F

respectively.

b.

```
subset(painters, School=="F" & Colour=="6", select=c(-1,-4))
```

and

```
           Drawing Colour School
Pourbus         15      6      F
Van Leyden       6      6      F
Veronese        15      6      F
Josepin          6      6      F
```

respectively.

c.

```
subset(painters, School=="F" and Colour=="6", select=c(-1,-4))
```

and

```
           Drawing Colour School
Pourbus         15      6      F
Van Leyden       6      6      F
```

respectively.

d.

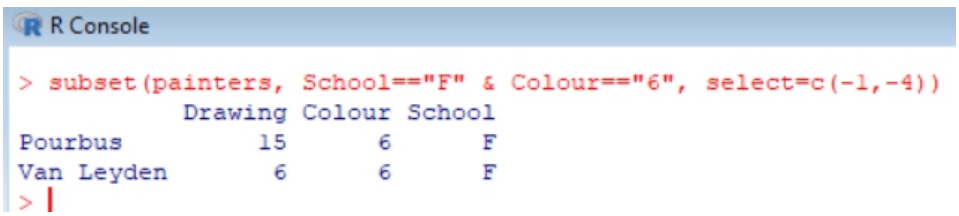
```
subset(painters, School=="F" & Colour=="6", select=c(-1,-4))
```

and

```
           Drawing Colour School
Pourbus         15      6      F
Van Leyden       6      6      F
```

respectively.

Solution:



8. A comma separated value data file named as **abc.csv** having **header** can be correctly read in R by which of the following command?

a. **read.csv(abc(csv), header=TRUE)**

b. **read.csv("abc.csv", header=FALSE)**

c. **read(abc.csv, header=FALSE)**

d. **read.csv("abc.csv", header=TRUE)**

9. A spread sheet created in MS-Excel software is named as **abc.xlsx** having **header.** The sheet number 3 of this file can be corerctly read in R by which of the following command?

a. **read.xlsx("abc.xlsx", sheetIndex=3, header=TRUE)**

b. **read.xlsx("abc.xlsx", sheetindex=3, header=TRUE)**

c. **read.excel("abc.xlsx", sheetIndex=3, header=TRUE)**

d. **read.xlsx("abc.xlsx", index=3, header=TRUE)**

10. A spread sheet created in MS-Excel software is named as **abc.xlsx** having **header.** One of the sheets in this file whose name is **school** can be read in R by which of the following command?

a. **read.xlsx("abc.xlsx", sheetname="school", header=TRUE)**

b. **read.excel("abc.xlsx", sheetName="school", header=TRUE)**

c. **read.xlsx("abc.xlsx", sheetName="school", header=TRUE)**

d. **read.xlsx("abc.xlsx", name="school", header=TRUE)**

MOOC Course - Introduction to R Software

Answers of Assignment 6

1. a
2. c
3. d
4. b
5. c
6. b
7. d
8. d
9. a
10. c