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NPTEL (<https://swayam.gov.in/explorer?ncCode=NPTEL>) » **Data Science for Engineers (course)**



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Course
outline

How does an
NPTEL
online
course
work?

Setup Guide

Pre Course
Material

Week 0

Week 1

Week 1: Assignment 1

The due date for submitting this assignment has passed.

Due on 2021-08-18, 23:59 IST.

Assignment submitted on 2021-07-22,
14:00 IST

1) Choose the variable name that is invalid in R.

1 point

- ☐ data.1 = 10
- ☐ data1 = 10
- ☒ 1data = 10
- ☐ data_1 =10

Yes, the answer is correct.

Score: 1

Accepted Answers:

1data = 10

2) The command to access help in R Studio is—

1 point

- ☐ ? topic
- ☒ help(topic)

● Data science for engineers Course philosophy and expectation (unit? unit=22&lesson=23)

- ☐ RSiteSearch('topic')
- ☐ help.stand(topic)

No, the answer is incorrect.
Score: 0

Accepted Answers:
help.stand(topic)

3) In the R code given below, the value of "i" at which the loop breaks is _____ **1 point**

```
n=100
sum=0
for(i in seq(1,n,3)){
  sum=sum+i
  print(c(i,sum))
  if(sum>15)
    break
}
```

● Introduction to R (unit? unit=22&lesson=24)

● Introduction to R (Continued) (unit? unit=22&lesson=25)

● Variables and datatypes in R (unit? unit=22&lesson=26)

● Data frames (unit? unit=22&lesson=27)

● Recasting and joining of dataframes (unit? unit=22&lesson=28)

- ☐ 2
- ☐ 9
- ☒ 10
- ☐ 8

Yes, the answer is correct.
Score: 1

Accepted Answers:
10

● Arithmetic, Logical and Matrix operations in R (unit? unit=22&lesson=29)

4) The library that supports right _join () function in R is _____ **1 point**

● Advanced programming in R : Functions (unit? unit=22&lesson=30)

- ☒ dplyr
- ☐ caret
- ☐ CRAN
- ☐ ggplot2

Yes, the answer is correct.
Score: 1

Accepted Answers:
dplyr

● Advanced Programming

1 point

in R :
Functions
(Continued)
(unit?
unit=22&lesson=31)

● Control
structures
(unit?
unit=22&lesson=32)

● Data
visualization
in R Basic
graphics
(unit?
unit=22&lesson=33)

● Common
doubts
asked on R
Language
(Week-1)
(unit?
unit=22&lesson=34)

● Week 1
Feedback
Form: Data
Science for
Engineers
(unit?
unit=22&lesson=35)

● Quiz:
Week 1:
Practice
Assignment
1
(assessment?
name=120)

● Quiz:
Week 1:
Assignment
1
(assessment?
name=128)

● Week 1:
Solutions
(unit?
unit=22&lesson=135)

5) The value of sum and month when i = 9 is ____

```
n=5
sum=0
for(i in 1:11){
  sum=sum+(i+2)
  print(c(month.abb[i+1],sum))
}
```

- ☐ "May" "18"
☐ "Sep" "52"
☒ "Oct" "63"
☐ "Nov" "75"

Yes, the answer is correct.

Score: 1

Accepted Answers:

"Oct" "63"

6) Table 1 provides the scores of the students in three subjects. Create **1 point** a data frame called students_scores out of Table 1. Which of the following options gives Table 2 as an output?

Table 1

Name	Mathematics	English	Science
Ram	85	80	79
Prabhu	70	79	96
Sita	90	73	95
Santosh	95	90	80
Lohith	80	93	87

[Week 2](#)
[Week 3](#)
[Week 4](#)
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Table 2

Name	Variable	Value
Ram	Mathematics	85
Prabhu	Mathematics	70
Sita	Mathematics	90
Santosh	Mathematics	95
Lohith	Mathematics	80
Ram	English	80
Prabhu	English	79
Sita	English	73
Santosh	English	90
Lohith	English	93
Ram	Science	79
Prabhu	Science	96
Sita	Science	95
Santosh	Science	80
Lohith	Science	87

- ☒ `melt(students_scores, id.vars = c("Name"), measure.vars = c("Mathematics", "English", "Science"))`
☐ `melt(students_scores, id.vars = c("Name", "Mathematics"), measure.vars = c("English", "Science"))`
☐ `melt(students_scores, id.vars = c("Name"), measure.vars = c("Mathematics", "English"))`
☐ `dcast(students_scores, variable+Name ~ Science, value.var="value")`

Yes, the answer is correct.

Score: 1

Accepted Answers:

`melt(students_scores, id.vars = c("Name"), measure.vars = c("Mathematics", "English", "Science"))`

Create a data frame with given vectors below.

rank = c(1,2,3)

competitor = c("Usain","Tyson","Yohan")

mark = c(9.58, 9.69, 9.65)

Store the data frame in the variable named – “**athletics**”.

7) The command to add a new row to the data frame “athletics” with the **1 point** following values passed to each vector?

rank= 4, competitor="Asafa", mark=9.72

- ☐ athletics=rbind(data.frame(rank= 4, competitor="Asafa", mark=9.72))
- ☐ athletics =rbind(data.frame(rank=4,competitor="Asafa",mark=9.72), athletic)
- ☒ athletics=rbind(athletics,data.frame(rank=4,competitor="Asafa",mark=9.72))
- ☐ None of the above

Yes, the answer is correct.

Score: 1

Accepted Answers:

athletics=rbind(athletics,data.frame(rank=4,competitor="Asafa",mark=9.72))

Answer question 8 based on the data frame created at the end of Q7.

8) The command to add a new column to the data frame “**athletics**” **1 point** with vector “**nationality**” taking values “JAM”, “USA”, “JAM”, “JAM” is:-

- ☐ athletics=cbind(dataframe(nationality = c("JAM","USA","JAM","JAM"), athletics))
- ☒ athletics=cbind(athletics,data.frame(nationality = c("JAM","USA","JAM","JAM")))
- ☐ athletics=cbind(athletics.data.frame(nationality = c("JAM","USA","JAM","JAM")))
- ☐ athletics=cbind(data.frame(nationality = c("JAM","USA","JAM","JAM")), athletics)

Yes, the answer is correct.

Score: 1

Accepted Answers:

athletics=cbind(athletics,data.frame(nationality = c("JAM","USA","JAM","JAM")))

Answer question 9 based on the data frame created at the end of question 8

9) The correct way to extract all elements for which "mark" is less than **1 point** 9.69 using the “**subset**” command is_____

- ☒ subset(athletics, athletics\$mark <9.69)

- ☐ `subset[athletics, athletics$mark]`
- ☐ `subset(athletics $mark > 9.69,athletics)`
- ☐ `subset(athletics.mark >9.69)`

Yes, the answer is correct.

Score: 1

Accepted Answers:

`subset(athletics, athletics$mark <9.69)`

10) Which of the following defined functions will return the output as 9.37? **1 point**

- ☐

```
func_multi= function(a,b,c)
{
  result=(a*b)*0.5+(a*c)**0.5
  return(result)
}
func_multi(4,5,6)
```
- ☒

```
func_multi= function(a,b,c)
{
  result=(a*b)**0.5+(a*c)**0.5
  return(result)
}
func_multi(4,5,6)
```
- ☐

```
func_multi= function(a,b,c)
{
  result=(a*b)**0.5+(a*c)**0.5
  return(result)
}
func_multi(4,5)
```
- ☐ None of the above

Yes, the answer is correct.

Score: 1

Accepted Answers:

```
func_multi= function(a,b,c)
{
  result=(a*b)**0.5+(a*c)**0.5
  return(result)
}
func_multi(4,5,6)
```

