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NPTEL (<https://swayam.gov.in/explorer?ncCode=NPTEL>) » Foundations Of R Software (course)

- Announcements (announcements)
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If already registered, click to check your payment status

Course outline

How does an NPTEL online course work? ()

Week 1 ()

Week 2 ()

Week 3 ()

- ☐ Lecture 9: Calculations with Data Vectors : Addition, Subtraction, Multiplication & Division (unit?unit=40&lesson=41)
- ☐ Lecture 10: R as a Calculator with Scalars and Data Vectors : Power operations, Integer and Modulo divisions (unit?unit=40&lesson=42)
- ☐ Lecture 11: Built in Functions and Assignments (unit?unit=40&lesson=43)
- ☐ Lecture 12: Matrices (unit?unit=40&lesson=44)
- ☒ Quiz: Week 3: Assignment 3 (assessment?name=129)
- ☐ Feedback For Week 3 (unit?unit=40&lesson=147)

Week 4 ()

Transcript ()

VIDEO DOWNLOAD ()

Problem Solving Session - July 2023 ()

Week 3: Assignment 3

Your last recorded submission was on 2023-08-15, 14:00 IST

Due date: 2023-08-16, 23:59 IST.

1)

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

`c(4,3,2,1)*c(1,2,2,4)**c(3,1,3,2)/c(4,2,3,3)+c(2,2,20/3,20/3)?`

☐ 5.000000 5.000000 10.666667 9.333333

☒ 3 5 12 12

☐ 3.0 6.5 92.0 7.0

☐ Error:...

1 point

2)

1 point

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

$c(12,16,3,2)/c(3,4,3,3) + c(4,c(2,4)^{c(2,3)}) - c(12,14,18,16)/c(3,2) + c(-3,-8,-2,-4)*c(3,1)$?

- ☒ -5.000000 -7.000000 53.000000 -7.333333
- ☐ 5.000000 7.000000 53.000000 7.333333
- ☐ 53.000000 -7.333333-5.000000 -7.000000
- ☐ None of these

3)

1 point

Which one of the following commands will give a result without a warning?

- ☐ $c(11,13,15,17)^{c(6,7,8)} + c(12,13,14,15)**c(12,3,14,15) - c(240,30,76,98)*c(8,3)$
- ☒ $c(11,13,15,17)^{c(6,8)} + c(12,13,14,15)**c(12,3,14,15) - c(240,30,76,98)*c(8,3)$
- ☐ $c(11,13,15,17)^{c(5,7)} + c(12,13,14,15)**c(12,3,15) - c(240,30,76,98)*c(8,3)$
- ☐ $c(11,13,15,17)**c(8,9,4,7) + c(12,13,14,15)*c(12,3,14,15) - c(240,30,76,98)/c(8,3,7)$

4)

1 point

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

$\text{sqrt}(c(12,6,7,8)*c(3,6,7,2) + c(12,14,12,14)*c(-12,12) + c(11,21,14,4)**c(2,2,3,1))$?

- ☒ 3.605551 25.396850 51.468437 13.711309
- ☐ -3.605551 -25.396850 -51.468437 -13.711309
- ☐ 51.468437 13.7113093.605551 25.396850
- ☐ Error:...

5)

1 point

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

$c(2,3,2,3)*c(3,2,-3,-2)**c(-2,-3,2,3)*c(-3,2,-2,-3) + c(-1/3,1/4,3,1)$?

- ☐ 1 1 3373
- ☒ -1 1 -33 73
- ☐ -1 1 33 73
- ☐ Error:...

- 6) Which one of the following is the correct outcome of the command 1 point
- `c(15,16,17,18)%/%4 + c(24,44,22,34)%/%c(4,5,4,6) +
c(343,36,67,88)%%c(21, 33) ?`
- ☐ 13 31 16 15
☐ 16 31 15 13
☒ 16 15 13 31
☐ 15 13 16 31
- 7) Which one of the following is the correct outcome of the command 1 point
- `min(c(88,98,144,176)**c(-1/2,1/2))/min(c(81,144,22,38)^c(1/2,-3))
-prod(c(3,2,3,2)^c(2,3))/max(c(81,24,44,99,26)*min(c(4,3,8,6
)))-max(c(12,24,24,12)^c(2,3))-1/2?`
- ☐ 23490
☐ -234990
☒ 234990
☐ None of these
- 8) Which one of the following is the correct outcome of the command? 1 point
- `round(prod(c(3,2,3,2)^c(2,3)) * sum(c(3,2,3,2)^c(2,3)) +
prod(c(3,2,3,2)^c(1,2,2,3)) + ceiling(c(15,16,17,18)^c(3,2)))`
- ☐ 182033 177444 180495 177376
☒ 180495 177376 182033 177444
☐ 182033 180495 177376 177444
☐ None of these
- 9) Which one of the following is the correct outcome of the command 1 point
- `floor(c(15,16,17,18)^c(2,3))-ceiling(c(15,16,17,18)^c(2,3))+
ceiling(c(12,13,14,15)^c(-1,-2)) + round(c(15,16,17,18)^c(3,2)) +
floor(c(15,16,17,18)^c(3,2))?`
- ☐ 6751 649513 9827
☒ 6751 5139827 649
☐ 9827 6496751 513
☐ None of these

- 10) Which one of the following is the correct outcome of the command 1 point
- ```
ceiling(c(14,18,14,15)^c(-3,-9) - sqrt(c(36,16,81,64)**c(3,2)) *
sqrt(c(12,13,14,15)^c(3,2)) - round(c(14,17,18,19)*round(c(7,9)
)))?
```
- ☒ -9076   -360 -38313   -1130
- ☐ -38313   -1130-9076   -360
- ☐ 9076   36038313   1130
- ☐ None of these
- 11) Which one of the following is the correct outcome of the command 1 point
- ```
ceiling(prod(c(2,3,8,9)) + sum(c(2,22,23,24,151))) -  
floor(prod(c(2,3,8,9)) - round(c(2,22,23,24,151)))?
```
- ☐ 224 246 373244 245
- ☐ 246 373224 244 245
- ☒ 224 244 245 246 373
- ☐ None of these
- 12) Which one of the following is the value of `x2` when the following commands are executed over the R console? 1 point
- ```
x1 = c(12,16,8,14)

x2 = sqrt(x1^2) - x1*2/x1^2 + x1**(1/2) + abs(x1)
```
- ☒ 27.29743 35.87500 18.57843 31.59880
- ☐ 27.29743 31.5988035.87500 18.57843
- ☐ 18.57843 31.5988027.29743 35.87500
- ☐ None of these
- 13) Which one of the following is the correct outcome of the command 1 point
- ```
c(21,22,24,34)^c(-3,-2,2,3)/c(4,3,2,1) +  
c(2,4,1,6)/%c(3,4)*c(2,5,3,6)+  
max(c(20,140,114,215)^c(1,2))/min(c(6,2,7,15)^c(2,2))?
```
- ☐ 5.000027 10.000689 293.000000 39315.000000
- ☐ 11556.25 -11551.25 11844.25 -50854.25
- ☒ 11556.25 11561.25 11844.25 50866.25
- ☐ None of these

14)

1 point

Which one of the following is the correct command to obtain the following matrix?

$$x = \begin{pmatrix} 11 & 14 & 17 \\ 12 & 15 & 18 \\ 13 & 16 & 19 \end{pmatrix}$$

- ☐ `x=matrix(11:19,3,3,byrow=T)`
- ☐ `x=mat(11:19,3,3, byrow=T)`
- ☒ `x=matrix(11:19,3,3,byrow=F)`
- ☐ `x=mat(11:19,3,3,byrow=F)`

15)

1 point

Which one of the following is the correct command to obtain the following matrix? $z =$

$$\begin{pmatrix} 15 & 8 \\ 11 & 19 \\ 17 & 12 \end{pmatrix}$$

- ☐ `z = matrix(nrow=2, ncol=3, data=c(15,11,17,8,19,12) , byrow=T)`
- ☒ `z = matrix(nrow=3, ncol=2, data=c(15,8,11,19,17,12) , byrow=T)`
- ☐ `z = matrix(nrow=2, ncol=3, data=(15,8,11,19,17,12) , byrow=T)`
- ☐ `z = matrix(nrow=3, ncol=2, data=(15,8,11,19,17,12) , byrow=T)`

16)

1 point

Which one of the following is the correct command to obtain the second column and first row of the following matrix?

$$x = \begin{pmatrix} 10 & 20 & 30 \\ 40 & 50 & 60 \\ 70 & 80 & 90 \end{pmatrix}$$

- ☐ `x(2,)` and `x(,1)` respectively.
- ☐ `x(2,)` and `x(1,)` respectively.
- ☒ `x[, 2]` and `x[1,]` respectively.
- ☐ `x[,1]` and `x[2,]` respectively.

17)

1 point

Which one of the following is the correct outcome of the command `x[2,3]` for the matrix constituted by the command `X=matrix(21:29,3,3,byrow=F)` ?

- ☐ 26
- ☒ 28
- ☐ 27
- ☐ 29

18)

1 point

Which one of the following is the correct outcome of the commands `dim(x)` and `dim(y)` for the matrices obtained by `x=matrix(101:150,2,25,byrow=T)` and `y=matrix(201:250,25,2,byrow=F)` ?

- ☐ 25 2 and 2 25 respectively.

- ☒ 2×25 and 25×2 respectively.
- ☐ 2×25 and 2×25 respectively.
- ☐ 25×2 and 25×2 respectively.

You may submit any number of times before the due date. The final submission will be considered for grading.

Submit Answers