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Course outline

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 ofthe command *1 point*

```
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:...`

2) *1 point*

Which one of the following is the correct outcome ofthe 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

```
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 ofthe 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) *1 point*

Which one of the following is the correct outcome ofthe command

```
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`
- [x] `16 15 13 31`
- [ ] `15 13 16 31`

7) *1 point*

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

```
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`
- [x] `234990`
- [ ] None of these

8) *1 point*

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

```
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`
- [x] `180495 177376 182033 177444`
- [ ] `182033 180495 177376 177444`
- [ ] None of these

9) *1 point*

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

```
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`
- [x] `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 ofthe 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.

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