Second Quiz - Second Section #0000000900 | On October 8, 2016 11:39	
Administrator Remarks	Processing

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What is the output of the above code?
`> y <- matrix(c(4,3,2,1),byrow=true)`
`> y`
	○	**[,1]**
		[1,] 4
		[2,] 3
		[3,] 2
		[4,] 1

	○	[,1] [,2] [,3] [,4] [1,] 4 3 2 1
	○	[,1] [,2] [1,] 4 3 [2,] 2 1
	○	Error

What will the dimension of matrix.std be if the following code script is executed?
`>h<-rbind(c(1,2) , cbind(c(3,4), c(5,6)))`
`>matrix.std<-cbind(h,c(7,8))`
	○	**3*3**

	○	4*2
	○	2*4
	○	Error

Three matrices are given below, Which one of the following will give me mymatrix3?
`> mymatrix1`
`[,1] [,2] [,3] [,4]`
`[1,] 1 5 4 3`
`[2,] 0 1 -1 3`
`[3,] 2 3 1 0`
`> mymatrix2`
`[,1] [,2] [,3] [,4]`
`[1,] -1 1 4 1`
`[2,] -3 1 1 0`
`[3,] 1 4 -1 2`
`> mymatrix3`
`[,1] [,2] [,3] [,4]`
`[1,] 1 9 2 5`
`[2,] -5 18 18 11`
`[3,] 0 7 14 6`
`[4,] -12 6 15 3`
	○	**t(mymatrix1)%*%mymatrix2**

	○	t(mymatrix1)*mymatrix2
	○	mymatrix1*mymatrix2
	○	mymatrix1%*%mymatrix2
The matrix below shows us Height and Weight values of students in class.	○	**>weight.height <-** **cbind(weight.height,vec)** **>weight.height <-**

```
> weight.height
         Anil  Sema  Ayca
Height   1.76  1.68  1.63
 Weight 70.00 48.00 51.00
```

Two more Students Can and Ahmet join the class. Their Height and Weight values are given in the vector:

```
 vec <- c(1.85,77,1.79,65)
names(vec) <- c("Canh","Canw","Ahmeth",”Ahmetw")
```

I want to put their data into the weight.height matrix. I also want to name the values. Which one of the following will work?

note that there is an extension of the vector recycling to matrices:
let's run the code below in r :
>x <- rbind(c(1,2,3),c(4,5,6)
>x <- cbind(x,1:6)
warning message: in cbind(x, 1:6) : number of rows of result is not a multiple of vector length (arg 2)
warning message is given by r. but that doesn't mean that it didn't add the vector to the matrix:
>dim(x)
2 4

- **cbind(weight.height,vec[c(3,4)]) >colnames(weight.height) <- c(“Anil”,”Sema”,”Ayca”,”Can”,”Ahmet”)**
- >weight.height <- cbind(weight.height,vec[c(1,2)],vec[c(3,4)]) >names(weight.height) <- c(names(weight.height),c("Can","Ahmet"))
- >weight.height <- cbind(weight.height,vec[-c(3,4)],vec[-c(1,2)]) >colnames(weight.height) <- c(names(weight.height),"Can","Ahmet"))
- >weight.height <- cbind(weight.height,vec) >weight.height <- cbind(weight.height,vec[3,4]) >names(weight.height) <- c(names(weight.height)[1:3],c(“Can","Ahmet”))

What is the output if the following code is executed?

```
z<- matrix(c(1:16),nrow=4)
 z[4,2]
```

- **8**
- 14
- 16
- 6

What is the output if the following code script is executed?

```
 n <- matrix(c(1:20), nrow=5)
 x <- n[1:3,3:4]
 x>=13
```

- **FALSE TRUE**
  FALSE TRUE
  TRUE TRUE
- TRUE FALSE
  TRUE FALSE
  FALSE FALSE
- FALSE FALSE TRUE
  TRUE TRUE TRUE
- TRUE TRUE FALSE
  FALSE FALSE FALSE

Which of the followings is/are true to generate the output "abcabc" :

```
 i. rep(c("a","b","c"),2)
 ii. c("a","b","c") + c("a","b","c")
 iii. c(c("a","b","c"),"a","b","c")
 iv. c(c("a","b","c"),c("a","b","c"))
```

- **i,iii,iv**
- i,ii
- iii,iv
- i,ii,iii

What is the output of seq(-5,5,len=5)?

- **-5 -2.5 0 2.5 5**
- 5 2.5 0 -2.5 -5
- -5 0 5
- 5 0 -5

What will be the output if you run

```
>apply(Lost,2,Kate,2,3)?
```

we have the kate function;
kate<-function(x,sawyer=3,jack=2){(x+sawyer)^(jack)}
and we have the matrix;
lost<-matrix(c(1,2,3,4,5,4,3,2,1),ncol=3,nrow=3,byrow=t)

- [,1] [,2] [,3]
  [1,] 27 64 125
  [2,] 216 343 216
  [3,] 125 64 27
- [,1] [,2] [,3]
  [1,] 16 25 36
  [2,] 49 64 49
  [3,] 36 25 16
- [,1] [,2] [,3]
  [1,] 27 216 125
  [2,] 64 343 64
  [3,] 125 216 27
- [,1] [,2] [,3]
  [1,] 16 49 36
  [2,] 25 64 25
  [3,] 36 49 16

Which one of the following code can give the matrix below?

```
     [,1] [,2] [,3]
[1,]    4    5    6
[2,]    7    8    9
[3,]   10   11   12
```

i) apply(rbind(c(1,2,3),c(4,5,6),c(7,8,9),byrow=t) , 1 , function(x,plus=3) {x+3})
ii) apply(cbind(c(1,2,3),c(4,5,6),c(7,8,9)) , 1 , function(x,plus=3){x+3})
iii) apply(matrix(c(1,2,3,4,5,6,7,8,9),nrow=3,ncol=3,byrow=t) , 2 , function(x,plus=3){x+3})
iiii) apply(matrix(c(1,2,3,4,5,6,7,8,9),nrow=3,ncol=3,byrow=t) , 1 , function(x,plus=3){x+3})

- ii,iii
- i,ii
- iii,iiii
- i,ii,iiii