

# 18BCE080\_PRAC7

Ishan Tewari

29/04/2021

```
x = c(5,2,1,4)
y = rep(1,5)

print(x)
```

```
## [1] 5 2 1 4
```

```
print(y)
```

```
## [1] 1 1 1 1 1
```

Part - 1

```
print(sum(x))
```

```
## [1] 12
```

```
print(range(x))
```

```
## [1] 1 5
```

```
print(length(y))
```

```
## [1] 5
```

```
print(sum(y))
```

```
## [1] 5
```

```
print(c(x,y,13))
```

```
## [1] 5 2 1 4 1 1 1 1 1 13
```

```
print(x[4] * y[2])
```

```
## [1] 4
```

```
print(x[2:4] * y[1:3])
```

```
## [1] 2 1 4
```

```
print(x <= 2)
```

```
## [1] FALSE TRUE TRUE FALSE
```

```
print(x[x <= 2])
```

```
## [1] 2 1
```

```
print(rep(1:4,2))
```

```
## [1] 1 2 3 4 1 2 3 4
```

```
print(rep(1:4,each=2))
```

```
## [1] 1 1 2 2 3 3 4 4
```

```
print(rep(1:4,c(2,2,2,2)))
```

```
## [1] 1 1 2 2 3 3 4 4
```

```
print(rep(1:4,c(2,2,2,1)))
```

```
## [1] 1 1 2 2 3 3 4
```

```
print(rep(1:4,each=2,len=10))
```

```
## [1] 1 1 2 2 3 3 4 4 1 1
```

```
print(2:3^2)
```

```
## [1] 2 3 4 5 6 7 8 9
```

```
print(seq(2,-3) * c(-1,1))
```

```
## [1] -2 1 0 -1 2 -3
```

Part - 2

```
a = LETTERS[1:3]
```

```
print(a)
```

```
## [1] "A" "B" "C"
```

```
print(paste('V',a,sep=":"))
```

```
## [1] "V:A" "V:B" "V:C"
```

```
print(nchar(paste(a,collapse = '<')))
```

```
## [1] 5
```

### Part - 3

```
u = c(TRUE,FALSE,TRUE,TRUE)
```

```
print(!u)
```

```
## [1] FALSE TRUE FALSE FALSE
```

```
print(u | !u)
```

```
## [1] TRUE TRUE TRUE TRUE
```

```
print(any(u))
```

```
## [1] TRUE
```

#### Part - 4

```
x = seq(10,0)
print(x)
```

```
## [1] 10 9 8 7 6 5 4 3 2 1 0
```

```
y = seq(1,10) ^ 2
y = rep(y,each=3)
print(y)
```

```
## [1] 1 1 1 4 4 4 9 9 9 16 16 16 25 25 25 36 36 36 49
## [20] 49 49 64 64 64 81 81 81 100 100 100
```

```
z = letters[1:16]
print(z)
```

```
## [1] "a" "b" "c" "d" "e" "f" "g" "h" "i" "j" "k" "l" "m" "n" "o" "p"
```

```
q = seq(1,16)
print(q)
```

```
## [1] 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
```

```
p = paste(z,q,sep='')
print(p)
```

```
## [1] "a1" "b2" "c3" "d4" "e5" "f6" "g7" "h8" "i9" "j10" "k11" "l12"
## [13] "m13" "n14" "o15" "p16"
```

## Part - 5

```
x = seq(5.5,15,0.5)
print(x)
```

```
## [1] 5.5 6.0 6.5 7.0 7.5 8.0 8.5 9.0 9.5 10.0 10.5 11.0 11.5 12.0 12.5
## [16] 13.0 13.5 14.0 14.5 15.0
```

```
m1 = matrix(x,2,10,byrow = TRUE)
print(m1)
```

```
##      [,1] [,2] [,3] [,4] [,5] [,6] [,7] [,8] [,9] [,10]
## [1,] 5.5   6   6.5   7   7.5   8   8.5   9   9.5   10
## [2,] 10.5  11  11.5  12  12.5  13  13.5  14  14.5  15
```

```
m2 = t(m1)
print(m2)
```

```
##      [,1] [,2]
## [1,] 5.5 10.5
## [2,] 6.0 11.0
## [3,] 6.5 11.5
## [4,] 7.0 12.0
## [5,] 7.5 12.5
## [6,] 8.0 13.0
## [7,] 8.5 13.5
## [8,] 9.0 14.0
## [9,] 9.5 14.5
## [10,] 10.0 15.0
```

```
print(m1 %*% m2)
```

```
##      [,1]    [,2]  
## [1,] 621.25 1008.75  
## [2,] 1008.75 1646.25
```