# Ex004.R

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```r
# 1 )
A <- matrix(c(2, 5, 2, 6, 1, 4), nrow = 2, ncol = 3, byrow = TRUE)
A
```

```
##      [,1] [,2] [,3]
## [1,]    2    5    2
## [2,]    6    1    4
```

```r
# 2 )
D <- matrix(c(15,18,21,27,18,10,14,5,4), nrow = 3, ncol = 3, byrow = TRUE)
D_Res <- D * 2
D_Res
```

```
##      [,1] [,2] [,3]
## [1,]   30   36   42
## [2,]   54   36   20
## [3,]   28   10    8
```

```r
# 3 )
B1 <- matrix(c(1,2,2,4,7,6), nrow = 3, ncol = 2, byrow = TRUE)
B2 <- matrix(c(10,20,30,40,50,60), nrow = 3, ncol = 2, byrow = TRUE )
M <- 2/7 * (B1 - B2)
M
```

```
##            [,1]       [,2]
## [1,]  -2.571429  -5.142857
## [2,]  -8.000000 -10.285714
## [3,] -12.285714 -15.428571
```

```r
# 4 )
resultado_4 <- A %*% M
resultado_4
```

```
##           [,1]       [,2]
## [1,] -69.71429  -92.57143
## [2,] -72.57143 -102.85714
```

```r
# 5 )
range(A)
```

```
## [1] 1 6
```

```r
A
```

```
##      [,1] [,2] [,3]
## [1,]    2    5    2
## [2,]    6    1    4
```

```r
# Valores máximo e minimo são entre 1 e 6
# 6 )
sum(A)
```

```
## [1] 20
```

```r
A
```

```
##      [,1] [,2] [,3]
## [1,]    2    5    2
## [2,]    6    1    4
```

```r
# 7 )
prod(A)
```

```
## [1] 480
```

```r
A
```

```
##      [,1] [,2] [,3]
## [1,]    2    5    2
## [2,]    6    1    4
```

```r
# 8 )
colSums(A)
```

```
## [1] 8 6 6
```

```r
A
```

```
##      [,1] [,2] [,3]
## [1,]    2    5    2
## [2,]    6    1    4
```

```r
# 9 )
sum(B1[B1 < 4])
```

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

```r
B1
```

```
##      [,1] [,2]
## [1,]    1    2
## [2,]    2    4
## [3,]    7    6
```

```r
# 10 )
install.packages("readxl")
```

```
## Installing package into '/cloud/lib/x86_64-pc-linux-gnu-library/4.4'
## (as 'lib' is unspecified)
```

```r
library(readxl)

df <- "/cloud/project/Exercicios.xlsx"
Exercicio <- read_excel(df)
Exercicio
```

```
## # A tibble: 6 x 4
##   Nome           Idade Sexo     NF
##   <chr>          <dbl> <chr> <dbl>
## 1 José Santos       17 M        92
```

```
## 2 Angela Dias       17 F        75
## 3 Aline Souza       16 F        81
## 4 Mayara Costa      15 F        87
## 5 Lara Lins         15 F        90
## 6 Nicolas Barros    13 M        88
```

```r
# a )
is.data.frame(Exercicio)
```

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

```r
# b )
Exercicio$Sexo <- factor(Exercicio$Sexo)
summary(Exercicio$Sexo)
```

```
## F M
## 4 2
```

```r
# c )
mean(Exercicio$Idade)
```

```
## [1] 15.5
```