

## Solutions to Exercises from Chapter 5

**1.1-** [1] 2 12

**1.2-** [,1] [,2]  
[1,] 1 1  
[2,] 2 2

**1.3-** Using functions `rownames()` and `colnames()`.

**1.4-** `cbind(X, Y)`

**1.5-** For the product of all elements of a matrix  $X$ : `prod(X)`.

For the product of the elements of each column of matrix  $X$ :  
`apply(X, FUN=prod, MARGIN=2)`.

**1.6-** [1] 4  
[1] 2 6 8 3

**1.7-** `weight[height>180]`

**1.8-** [1] 7 8 9  
[1] 5 6

**1.9-** `L[[4]] <- 1:10`

**1.10-** [1] 67

**1.11-** `attach(X)`  
`weight[sex=="F"]`  
`height[sex=="F"]`  
# or:  
`X[sex=="F", -3]`

**1.12-** [1] 1 2 3 and `integer(0)`

**1.13-** [1] TRUE TRUE FALSE and [1] TRUE

**1.14-** [1] 4 4

**1.15-** [1] "acbd"

**1.16-** [ [1] ]  
[1] "ab" "cd"

**1.17-** [1] "" "cd"

**1.18-** tolower(c("Jack", "Julia", "William"))

**1.19-** strptime().