

Chapter 6 Exercises

Exercises, Chapter 6

- TODO: Finish Exercises

Exercise 6.1

- text, p.32, ‘The `array` function is a generalization of the `matrix` function.’
- A *matrix* is an *array* whose third and final subscript has a value of one.
- In my notes, I have the phrase “single layer” written next to this question.

Exercise 6.2

```
# x<-array()      create array, x,
# seq(1:18)      populated with first 18 positive integers
# dim<-c(3,3,2)  with dimensions 3x3x2
#               using default input convention
x<-array(seq(1:18),dim<-c(3,3,2))
x
```

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

```
## , , 2
##
##      [,1] [,2] [,3]
## [1,]   10   13   16
## [2,]   11   14   17
## [3,]   12   15   18
```

```
# x[]  extract elements of x
# 2:3  include second and third rows
# -2   exclude second column
# 2    include second layer
x[2:3,-2,2]
```

```
##      [,1] [,2]
## [1,]   11   17
## [2,]   12   18
```

Exercise 6.3

```
a<-array(seq(1:60),dim<-c(3,4,5))
a[c(1,3),-c(1,4),3:5]
```

```
## , , 1
##
##      [,1] [,2]
## [1,]   28  31
## [2,]   30  33
##
## , , 2
##
##      [,1] [,2]
## [1,]   40  43
## [2,]   42  45
##
## , , 3
##
##      [,1] [,2]
## [1,]   52  55
## [2,]   54  57
```

```
a[-2,2:3,3:5]
```

```
## , , 1
##
##      [,1] [,2]
## [1,]   28  31
## [2,]   30  33
##
## , , 2
##
##      [,1] [,2]
## [1,]   40  43
## [2,]   42  45
##
## , , 3
##
##      [,1] [,2]
## [1,]   52  55
## [2,]   54  57
```