

# List Vol.2 Exercises



Answers to the exercises are available [here](#).

## Exercise 1

Consider 3 vectors, day, month and year:

```
year=c(2005:2016)
```

```
month=c(1:12)
```

```
day=c(1:31)
```

Define a list Date such as:

```
Date=
```

```
$year
```

```
[1] 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015  
2016
```

```
$month
```

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

```
$day
```

```
[1] 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22  
23 24 25 26 27 28 29 30 31
```

## Exercise 2

write an R statement that will replace the values of year element in Date list for c(2000:2010).

## Exercise 3

write an R statement that will delete the value 4 of the month component of the list Date.



**Learn more** about lists in the online courses:

- [Learn By Example: Statistics and Data Science in R](#) (lecture 59)
- [The Comprehensive Statistics and Data Science with R Course](#) (lectures 69-76)
- [R Programming: Advanced Analytics In R For Data Science](#) (11 lectures all about lists, ~ 1.5 hrs in total)

#### **Exercise 4**

Consider a vector x such that:

```
x=c(1,3,4,7,11,18,29)
```

Write an R statement that will return a list X2 with components of value:

```
x*2,x/2,sqrt(x) and names "x*2","x/2","sqrt(x)"
```

#### **Exercise 5**

Consider the X2 list.

Write an R statement that will return a vector:

```
2.000000 2.645751 3.316625
```

#### **Exercise 6**

Write an R statement that will return a concatenation M, of Date and X2 lists.

```
M
```

```
$year
```

```
[1] 2000 2001 2002 2003 2004 2005 2006 2007 2008
```

```
$month
```

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

```
$day
```

```
[1] 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22  
23  
[24] 24 25 26 27 28 29 30 31
```

```
$`x*2`
```

```
[1] 2 6 8 14 22 36 58
```

```
$`x/2`
```

```
[1] 0.5 1.5 2.0 3.5 5.5 9.0 14.5
```

```
$`sqrt(x)`
```

```
[1] 1.000000 1.732051 2.000000 2.645751 3.316625 4.242641  
5.385165
```

### **Exercise 7**

Write an R statement that will return a sublist N of M, with components year,x\*2 and day.

### **Exercise 8**

Consider the N list.

Write an R statement that will return:

- the length of x\*2 vector in N
- the value of the second element of vector year in N

### **Exercise 9**

Consider 3 letters vectors, and 2 numeric vectors:

```
A=letters[1:4],B=letters[5:10],C=letters[11:15]
```

```
D=c(1:10),E=c(20:5)
```

Define a list z, with elementes x and y,such that

x is a list with elements A,B,and C;

and y is alist with elements D and E.

### **Exercise 10**

Write an R statement that will return:

- the number on third position on the second vector of the

first list of z

-the letter on fifth position on the third vector of the second list of z

**Want some extra practice with lists? Please take a look [here](#)**