

# R Self Test (beginner; without explanation)

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- Subset
- Plotje kleur aanpassen
- Nabespreking: onderste deel help-file, hoe vind je dingen online, code aanpassen/recyclen. Tijdens GRS: Probeer de tutorials **aan te passen!**

## 1 Basic Operations

### 1.1 What would be the output of the following code?

```
x <- 5  
y <- 3  
x ^ y
```

- A)  $5 \wedge 3$
- B) 15
- C) 125
- D) 243

Answer:

### 1.2 Why does the following code produce an error and how would you fix it?

```
a + b  
a <- 4  
b <- 7
```

Answer:

**1.3 What would be the output of the following code?**

```
x <- c(1, 2, 3)
y <- c(4, 5, 6)
x * y
```

- A) 1, 2, 3, 4, 5, 6
- B) 720
- C) 4, 10, 18
- D) An error

Answer:

**1.4 What would be the output of the following code?**

```
0:5
```

- A) 0
- B) 5
- C) Inf
- D) 0, 1, 2, 3, 4, 5

Answer:

**1.5 What would be the output of the following code?**

```
-2:2
```

- A) -1
- B) -2, 2
- C) -0, -1, -2
- D) -2, -1, 0, 1, 2

Answer:

### 1.6 How long will the following sequence be?

```
seq(0, 1, 0.2)
```

- A) 3
- B) 4
- C) 5
- D) 6

Answer:

### 1.7 Can you explain the output of the following code?

```
1:5 + 1:10
```

```
## [1] 2 4 6 8 10 7 9 11 13 15
```

Answer:

### 1.8 Why does the following produce a warning? Why is the last output 11?

```
1:10 + 1:3
```

```
## Warning in 1:10 + 1:3: longer object length is not a multiple of shorter object  
## length
```

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

Answer:

## 2 Data

Below is a small data frame called DF:

```
##   weight height smoking  sex
## 1     64   176   TRUE Female
## 2     71   184  FALSE  Male
## 3     58   178   TRUE Female
## 4     72   179  FALSE  Male
## 5     67   180  FALSE  Male
## 6     80   197  FALSE  Male
## 7     70   186  FALSE  Male
## 8     66   178  FALSE  Male
## 9     64   179  FALSE Female
## 10    75   184   TRUE  Male
```

### 2.1 What value does the following element have?

- DF[1, 4]
- A) 64  
B) 72  
C) "Female"  
D) "Male"  
E) 64, 72  
F) 64, "Female"

Answer:

### 2.2 Which code will give me the rows of smoking individuals?

1. DF[3, ]
  2. DF[, 3]
  3. DF\$smoking
- A) Only option 1  
B) Only option 2  
C) Only option 3  
D) Option 1 & 3  
E) Option 2 & 3  
F) None of the above

Answer:

### 2.3 Which code will give me the observations of individuals over 65 kg?

1. `DF[DF$weight > 65]`
2. `DF[DF$weight > 65, ]`
3. `DF[, DF$weight > 65]`

- A) Only option 1
- B) Only option 2
- C) Only option 3
- D) Option 1 & 2
- E) Option 1 & 3
- F) None of the above

Answer:

### 2.4 How can I select men with a height of at least 180?

1. `DF[DF$sex == "Male" & DF$height >= 180]`
2. `DF[DF$sex == "Male" | DF$height >= 180]`
3. `DF[DF$sex == "Male" & DF$height >= 180, ]`
4. `DF[DF$sex == "Male" | DF$height >= 180, ]`

- A) Only option 1
- B) Only option 2
- C) Only option 3
- D) Only option 4
- E) Option 1 & 2
- F) Option 3 & 4

Answer: