

WorkSheet2

Mike Anthony Taltal

2022-10-07

```
#1. Ceate a vector using : operator  
#1a. Sequence from -5 to 5. Write the R code and its output. Describe its output.  
Num <- seq(-5,5)  
Num
```

```
## [1] -5 -4 -3 -2 -1 0 1 2 3 4 5
```

```
#1b. x <- 1:7. What will be the value of x?  
#answer: The value of x is numbers form 1 to 7  
q<- 1:7  
q
```

```
## [1] 1 2 3 4 5 6 7
```

```
#2. Create a vector using seq() function  
#2a. seq(1, 3, by=0.2) # specify step size Write the R code and its output. Describe the output.  
Mike <- seq(1, 3, by= 0.2)  
Mike
```

```
## [1] 1.0 1.2 1.4 1.6 1.8 2.0 2.2 2.4 2.6 2.8 3.0
```

```
#Describe the output: The output displays numbers form 1 to 3 by 0.2
```

```
#3.A factory has a census of its workers. There are 50 workers in total. The following  
#list shows their ages: 34, 28, 22, 36, 27, 18, 52, 39, 42, 29, 35, 31, 27,  
#22, 37, 34, 19, 20, 57, 49, 50, 37, 46, 25, 17, 37, 43, 53, 41, 51, 35,  
#24,33, 41, 53, 40, 18, 44, 38, 41, 48, 27, 39, 19, 30, 61, 54, 58, 26,18.
```

```
Age <- c(34,28,22,36,27,18,52,39,42,29,35,31,27,  
        22, 37, 34, 19, 20, 57, 49, 50, 37, 46, 25, 17, 37, 43, 53, 41, 51, 35,  
        24,33, 41, 53, 40, 18, 44, 38, 41, 48, 27, 39, 19, 30, 61, 54, 58, 26,18)
```

```
#a. Access 3rd element, what is the value?  
Age[3]
```

```
## [1] 22
```

```
#b. Access 2nd and 4th element, what are the values?  
Age[2]
```

```
## [1] 28
```

```
Age[4]
```

```
## [1] 36
```

```
#c. Access all but the 1st element is not included. Write the R code and its output.  
Age[2:49]
```

```
## [1] 28 22 36 27 18 52 39 42 29 35 31 27 22 37 34 19 20 57 49 50 37 46 25 17 37  
## [26] 43 53 41 51 35 24 33 41 53 40 18 44 38 41 48 27 39 19 30 61 54 58 26
```

```
#4.*Create a vector x <- c("first"=3, "second"=0, "third"=9). Then named the vector,names(x).  
x <- c("first"=3, "second"=0, "third"=9)  
names(x)
```

```
## [1] "first" "second" "third"
```

```
#a. Print the results. Then access x[c("first", "third")].Describe the output  
x[c("first", "third")]
```

```
## first third  
##      3      9
```

```
##Describe the output: the output it displays two lines,  
##the first line it contains and displays first and third  
##while on the second line it displays 3 and 9.
```

```
#5 Create a sequence x from -3:2.  
y <- c(-3:32)  
y
```

```
## [1] -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21  
## [26] 22 23 24 25 26 27 28 29 30 31 32
```

```
#a. Modify 2nd element and change it to 0;  
y[2] <- 0  
y
```

```
## [1] -3 0 -1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21  
## [26] 22 23 24 25 26 27 28 29 30 31 32
```

```
##Describe the output: the -2 output was replaced by zero as a second element.
```

```
#6.*The following data shows the diesel fuel purchased by Mr. Cruz.
#a. Create a data frame for month, price per liter (php) and purchase-quantity (liter).
#Write the codes.
```

```
Month <- c("Jan", "Feb", "March", "Apr", "May", "June")
Month
```

```
## [1] "Jan" "Feb" "March" "Apr" "May" "June"
```

```
Price <- c(52.50, 57.25, 60.00, 65.00, 74.25, 54.00)
Price
```

```
## [1] 52.50 57.25 60.00 65.00 74.25 54.00
```

```
Quantity <- c(25, 30, 40, 50, 10, 45)
data_frame <- data.frame(Month, Price, Quantity)
data_frame
```

```
##   Month Price Quantity
## 1   Jan  52.50      25
## 2   Feb  57.25      30
## 3 March  60.00      40
## 4   Apr  65.00      50
## 5   May  74.25      10
## 6   June 54.00      45
```

```
#b. What is the average fuel expenditure of Mr. Cruz from Jan to June? Note: Use
#weighted.mean(liter, purchase)
```

```
weighted.mean(Price,Quantity)
```

```
## [1] 59.2625
```

```
#7.
##code
data <- c(length(rivers), sum(rivers), mean(rivers), median(rivers), var(rivers),
sd(rivers), min(rivers), max(rivers))
data
```

```
## [1] 141.0000 83357.0000 591.1844 425.0000 243908.4086 493.8708
## [7] 135.0000 3710.0000
```

```
#8.a
```

```
Ranking <- 1:25
```

```
Celebrity <- c("Tom Cruise", "Rolling Stones", "Oprah Winfrey", "U2",
               "Tiger Woods", "Steven Spielberg", "Howard Stern", "50 Cent", "Cast of the sopranos",
               "Dan Brown", "Bruce Springsteen", "Donald Trump", "Muhammad Ali", "Paul McCartney",
               "George Lucas", "Elton John", "David Letterman", "Phil Mickelson", "J.K Rowling",
               "Bradd Pitt", "Peter Jackson", "Dr. Phil McGraw", "Jay Lenon", "Celine Dion", "Kobe B")
```

```
Pay <- c(67, 90, 225, 110, 90, 332, 302, 41, 52, 88, 55, 44, 55, 40,
        233, 34, 40, 47, 75, 25, 39, 45, 32, 40, 31)
```

```
Data_Ranking <- data.frame(Ranking, Celebrity, Pay)
Data_Ranking
```

```
##      Ranking      Celebrity Pay
## 1         1      Tom Cruise  67
## 2         2    Rolling Stones  90
## 3         3    Oprah Winfrey 225
## 4         4             U2 110
## 5         5      Tiger Woods  90
## 6         6    Steven Spielberg 332
## 7         7    Howard Stern 302
## 8         8        50 Cent  41
## 9         9 Cast of the sopranos 52
## 10        10      Dan Brown  88
## 11        11    Bruce Springsteen 55
## 12        12    Donald Trump  44
## 13        13    Muhammad Ali  55
## 14        14    Paul McCartney 40
## 15        15    George Lucas 233
## 16        16    Elton John  34
## 17        17    David Letterman 40
## 18        18    Phil Mickelson 47
## 19        19    J.K Rowling  75
## 20        20    Bradd Pitt  25
## 21        21    Peter Jackson 39
## 22        22    Dr. Phil McGraw 45
## 23        23      Jay Lenon  32
## 24        24    Celine Dion  40
## 25        25    Kobe Bryant  31
```

```
#b
Ranking [19] <- 15
Ranking
```

```
## [1] 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 15 20 21 22 23 24 25
```

```
Pay [19] <- 90
Pay
```

```
## [1] 67 90 225 110 90 332 302 41 52 88 55 44 55 40 233 34 40 47 90
## [20] 25 39 45 32 40 31
```

```
Ranking <- data.frame(Ranking, Celebrity, Pay)
Ranking
```

```
##      Ranking      Celebrity Pay
## 1         1      Tom Cruise  67
## 2         2    Rolling Stones  90
## 3         3    Oprah Winfrey 225
## 4         4             U2 110
## 5         5      Tiger Woods  90
## 6         6    Steven Spielberg 332
## 7         7    Howard Stern 302
## 8         8        50 Cent  41
## 9         9 Cast of the sopranos 52
```

| | | | |
|-------|----|-------------------|-----|
| ## 10 | 10 | Dan Brown | 88 |
| ## 11 | 11 | Bruce Springsteen | 55 |
| ## 12 | 12 | Donald Trump | 44 |
| ## 13 | 13 | Muhammad Ali | 55 |
| ## 14 | 14 | Paul McCartney | 40 |
| ## 15 | 15 | George Lucas | 233 |
| ## 16 | 16 | Elton John | 34 |
| ## 17 | 17 | David Letterman | 40 |
| ## 18 | 18 | Phil Mickelson | 47 |
| ## 19 | 15 | J.K Rowling | 90 |
| ## 20 | 20 | Bradd Pitt | 25 |
| ## 21 | 21 | Peter Jackson | 39 |
| ## 22 | 22 | Dr. Phil McGraw | 45 |
| ## 23 | 23 | Jay Lenon | 32 |
| ## 24 | 24 | Celine Dion | 40 |
| ## 25 | 25 | Kobe Bryant | 31 |