

RWorksheet_#2Mirabuena

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#1. Create a vector using : operator

#a. Sequence from -5 to 5. Write the R code and its output. Describe its output.

```
seq(from=-5, to=5)
```

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

#b. x <- 1:7. What will be the value of x?

```
x <- 1:7
x
```

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

```
```r
```

##2. \* Create a vector using seq() function

```
seq(1, 3, by=0.2)
```

```
```
```

```
```
```

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

```
```
```

```
```r
```

#3. A factory has a census of its workers. There are 50 workers in total. The following list shows their ages.

```
a <- 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?

```
a[3]
```

```
```
```

```
```
```

```
[1] 22
```

```
```
```

```
```r
```

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

```
a[2]
```

```
```
```

```

```
[1] 28
```

```r
a[4]
```

```
[1] 36
```

```r
#c. Access all but the 1st element is not included. Write the R code and its output.
a[2:50]
```

```
[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 18
```

```r
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)
```

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

x[c("first", "third")]
```

```
first third
3 9
```

```r
#5. Create a sequence x from -3:2.
x <- seq(from = -3, to= 2)
x
```

```
[1] -3 -2 -1 0 1 2
```

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

```

```

---
## [1] -3 0 -1 0 1 2
---

```r
#Describe the output.
#In the sequence x from -3 to 2, the 2nd element change into zero by modifying it.

```r
#6.    *The following data shows the diesel fuel purchased by Mr. Cruz.

diesel <- data.frame(
  month = c("January", "February", "March",
            "April", "May", "June"),
  Price = c("52.50", "57.25", "60.00", "65.00", "74.25", "54.00"),
  purchase = c("25", "30", "40", "50", "10", "45")
)
diesel
---

---
##      month Price purchase
## 1 January 52.50      25
## 2 February 57.25      30
## 3 March 60.00      40
## 4 April 65.00      50
## 5 May 74.25      10
## 6 June 54.00      45
---

```r
#b. What is the average fuel expenditure of Mr. Cruz from Jan to June? Note: Use

liter= c(52.50, 57.25, 60.00, 65.00, 74.25, 54.00)
purchase = c(25, 30, 40, 50, 10, 45)

weighted.mean(liter, purchase)

[1] 59.2625

```r
#7
#a. Type "rivers" in your R console.
rivers
---

---
## [1] 735 320 325 392 524 450 1459 135 465 600 330 336 280 315 870
## [16] 906 202 329 290 1000 600 505 1450 840 1243 890 350 407 286 280

```

```
## [31] 525 720 390 250 327 230 265 850 210 630 260 230 360 730 600
## [46] 306 390 420 291 710 340 217 281 352 259 250 470 680 570 350
## [61] 300 560 900 625 332 2348 1171 3710 2315 2533 780 280 410 460 260
## [76] 255 431 350 760 618 338 981 1306 500 696 605 250 411 1054 735
## [91] 233 435 490 310 460 383 375 1270 545 445 1885 380 300 380 377
## [106] 425 276 210 800 420 350 360 538 1100 1205 314 237 610 360 540
## [121] 1038 424 310 300 444 301 268 620 215 652 900 525 246 360 529
## [136] 500 720 270 430 671 1770
```

```

```
```r
#Create a vector data with 7 elements, containing the number of elements
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
```

```

```
```r
#8. The table below gives the 25 most powerful celebrities and their annual pay as ranked by the edition

PowerRanking <- 1:25

```

```
#a. Create vectors according to the above table. Write the codes.

```

```
CelebrityName = c("Tom Cruise","Rolling Stones",
                  "Oprah Winfrey","U2", "Tiger Woods",
                  "Steven Speilberg","Howarf Stern",
                  "50 Cent", "Cast of the sopranos",
                  "Dan Brown","Bruce Springsteen",
                  "Donald Trump","Muhammand 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 Bryan")

```

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

```

```
Ranking <- data.frame(PowerRanking, CelebrityName,Pay)
Ranking
```

```

```
```
## PowerRanking CelebrityName 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 Speilberg 32
## 7      7      Howarf 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     Muhammand 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 Bryan  31
```

```

```
```r
```

```
#b. Modify the power ranking and pay of J.K. Rowling. Change power ranking to 15 and pay to 90. Write t
```

```
PowerRanking[19] <- 15
PowerRanking
```

```

```
```
```

```
## [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
```
```

```
```r
```

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

```
```
```

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