

RWorksheet_Basa#1

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1. Vector: operator

a.

```
seq_seq <- -5:5  
print(seq_seq)
```

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

b.

```
x <- 1:7  
print(x)
```

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

2. vector using seq()

```
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
```

```
print(seq)
```

```
## function (...)  
## UseMethod("seq")  
## <bytecode: 0x57c8c03633b0>  
## <environment: namespace:base>
```

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,

4.

1

a. Access 3rd element, what is the value?

```
mylist <- list(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,  
print(mylist[3])
```

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

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

```
mylist <- list(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,  
print(mylist[c(2, 4)])
```

```
## [[1]]
## [1] 28
##
## [[2]]
## [1] 36
```

c. Access all but the 4th and 12th element is not included. Write the R script and its output.

```
mylist <- list(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, 4
print(mylist[-c(4, 12)])
```

```
## [[1]]
## [1] 34
##
## [[2]]
## [1] 28
##
## [[3]]
## [1] 22
##
## [[4]]
## [1] 27
##
## [[5]]
## [1] 18
##
## [[6]]
## [1] 52
##
## [[7]]
## [1] 39
##
## [[8]]
## [1] 42
##
## [[9]]
## [1] 29
##
## [[10]]
## [1] 35
##
## [[11]]
## [1] 27
##
## [[12]]
## [1] 22
##
## [[13]]
## [1] 37
##
## [[14]]
## [1] 34
##
## [[15]]
```

```
## [1] 19
##
## [[16]]
## [1] 20
##
## [[17]]
## [1] 57
##
## [[18]]
## [1] 49
##
## [[19]]
## [1] 50
##
## [[20]]
## [1] 37
##
## [[21]]
## [1] 46
##
## [[22]]
## [1] 25
##
## [[23]]
## [1] 17
##
## [[24]]
## [1] 37
##
## [[25]]
## [1] 43
##
## [[26]]
## [1] 53
##
## [[27]]
## [1] 41
##
## [[28]]
## [1] 51
##
## [[29]]
## [1] 35
##
## [[30]]
## [1] 24
##
## [[31]]
## [1] 33
##
## [[32]]
## [1] 41
##
## [[33]]
```

```
## [1] 53
##
## [[34]]
## [1] 40
##
## [[35]]
## [1] 18
##
## [[36]]
## [1] 44
##
## [[37]]
## [1] 38
##
## [[38]]
## [1] 41
##
## [[39]]
## [1] 48
##
## [[40]]
## [1] 27
##
## [[41]]
## [1] 39
##
## [[42]]
## [1] 19
##
## [[43]]
## [1] 30
##
## [[44]]
## [1] 61
##
## [[45]]
## [1] 54
##
## [[46]]
## [1] 58
##
## [[47]]
## [1] 26
##
## [[48]]
## [1] 18
```

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

```
names <- c("first"=3, "second"=0, "third"=9)
print(names)
```

```
## first second third
##      3      0      9
```

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

```
names <- c("first"=3, "second"=0, "third"=9)
names[c( 1, 3)]
```

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

b. Write the code and its output.

```
names <- c("first"=3, "second"=0, "third"=9)
names[c( 1, 3)]
```

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

```
names
```

```
## first second third
##      3      0      9
```

5. Create a sequence x from -3:2.

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

```
x <- -3:2
x[2] <- 0
x
```

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

Describe the output.

b. Write the code and its output.

```
x <- -3:2
x[2] <- 0
x
```

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

[1] -3 0 -1 0 1 2 6. *The following data shows the diesel fuel purchased by Mr. Cruz.

2

Month Jan Feb March Apr May June Price per liter (PhP) 52.50 57.25 60.00 65.00 74.25 54.00 Purchase-quantity(Liters) 25 30 40 50 10 45 a. Create a data frame for month, price per liter (php) and purchase-quantity (liter). Write the R scripts and its output.

```
months <- c("Jan", "Feb", "March", "Apr", "May", "Jun")
php <- c(52.50, 57.25, 60.00, 65.00, 74.25, 54.00)
liters <- c(25, 30, 40, 50, 10, 45)
df <- data.frame(months, php, liters)
df
```

```
## months php liters
## 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 Jun 54.00 45
```

b. What is the average fuel expenditure of Mr. Cruz from Jan to June? Note: Use `'weighted.mean(liter, purchase)'`. Write the R scripts and its output.

```
average <- weighted.mean(php, liters)
average
```

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