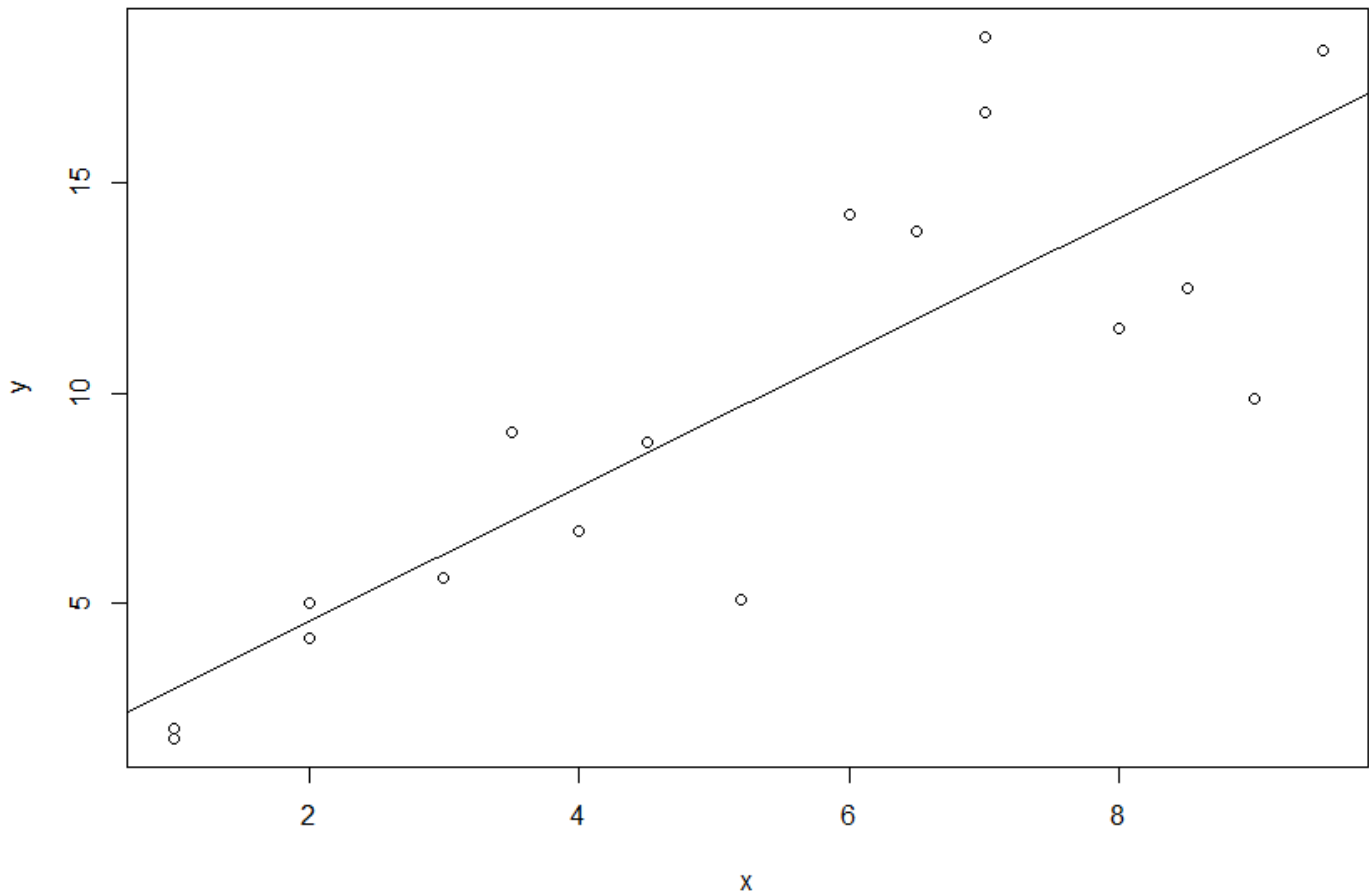


$$y = 1.6x + 1.4$$



```
> summary(lm.result)
```

```
Call:
lm(formula = y ~ x)
```

```
Residuals:
    Min       1Q   Median       3Q      Max
-5.8935 -1.1902 -0.3971  2.0815  5.8881
```

```
Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  1.3980     1.6258   0.860   0.403
x            1.5954     0.2787   5.723 4.03e-05 ***
```

```
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
Residual standard error: 3.127 on 15 degrees of freedom
Multiple R-squared:  0.6859, Adjusted R-squared:  0.665
F-statistic: 32.76 on 1 and 15 DF, p-value: 4.03e-05
```

```
> coef(lm.result)
(Intercept)          x
  1.397965     1.595392
```

```

> x
[1] 1.0 1.0 2.0 2.0 3.0 3.5 4.0 4.5 5.2 6.0 6.5 7.0 7.0 8.0 8.5 9.0 9.5

> round(y, 1)
[1] 1.8 2.0 5.0 4.2 5.6 9.1 6.7 8.8 5.1 14.3 13.8 16.7 18.5 11.5 12.5 9.9 18.1
> yR <- round(y, 1)

> c <- coef(lm.result)
> c
(Intercept)          x
  1.397965      1.595392

> c[1]
(Intercept)
  1.397965

> c[2]
          x
  1.595392

> yHat <- x * c[2] + c[1]
>
> plot(x, yHat)

```

```



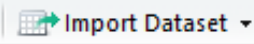

> regDF
  x yHat  y rDiff
1 1.0  3.0  1.8 -1.2
2 1.0  3.0  2.0 -1.0
3 2.0  4.6  5.0  0.4
4 2.0  4.6  4.2 -0.4
5 3.0  6.2  5.6 -0.6
6 3.5  7.0  9.1  2.1
7 4.0  7.8  6.7 -1.1
8 4.5  8.6  8.8  0.3
9 5.2  9.7  5.1 -4.6
10 6.0 11.0 14.3  3.3
11 6.5 11.8 13.8  2.1
12 7.0 12.6 16.7  4.1
13 7.0 12.6 18.5  5.9
14 8.0 14.2 11.5 -2.6
15 8.5 15.0 12.5 -2.5
16 9.0 15.8  9.9 -5.9
17 9.5 16.6 18.1  1.6

```

```

Environment History
To Console To Source
c[1]
c[2]
x
round(y, 1)
yR <- round(y, 1)
c <- coef(lm.result)
c
c[1]
c[2]
yHat <- x * c[2] + c[1]
plot(x, yHat)
rDiff = y - yHat
regDF <- data.frame(x, yHat, y, rDiff)
regDF
regDF$y <- round(y, 1)
regDF
regDF$yHat <- round(yHat, 1)
regDF
regDF$rDiff <- round(rDiff, 1)
regDF

```

Environment		History	
   			
Global Environment ▾			
Data			
regDF		17 obs. of 4 variables	
Values			
c		Named num [1:2] 1.4 1.6	
coeficients		Named num [1:2] 1.4 1.6	
lm.result		List of 12	
rDiff		num [1:17] -1.19 -0.961 0.411 -0.397 -0.554 ...	
x		num [1:17] 1 1 2 2 3 3.5 4 4.5 5.2 6 ...	
y		num [1:17] 1.8 2.03 5 4.19 5.63 ...	
y1		num [1:17] 1.8 2.03 2.5 2.1 1.88 ...	
yHat		num [1:17] 2.99 2.99 4.59 4.59 6.18 ...	
yR		num [1:17] 1.8 2 5 4.2 5.6 9.1 6.7 8.8 5.1 14.3 ...	

<http://www.cs.uni.edu/~jacobson/4772/2015/UsingR.txt>

```
x = c(1, 1, 2, 2, 3, 3.5, 4, 4.5, 5.2, 6, 6.5, 7, 7, 8, 8.5, 9, 9.5)
y1 = rnorm(17, 2, 0.5)
y = x * y1
plot(x, y)
abline(lm(y ~ x))

lm( y ~ x)
summary( lm( y ~ x ))

lm.result = simple.lm(x,y)

install.packages("UsingR")
library("UsingR")

## library("UsingR", lib.loc="C:/Users/jacobson/Documents/R/win-library/2.15")

summary(lm.result)

lm.result$coeficients

coef(lm.result)

plot(lm.result)
b1 = (coef(lm.result))[['x']]

z <- fitted(lm.result)

z <- fitted(lm.result)
xy <- data.frame(x, y, z)

plot(x, y)
predict(lm.result, data.frame(x = c(4, 12)))
## 1      2
## 8.316998 28.302175
```

RStudio

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R demos * Untitled1* * regDF *

	x	yHat	y	rDiff
1	1.0	3.0	1.8	-1.2
2	1.0	3.0	2.0	-1.0
3	2.0	4.6	5.0	0.4
4	2.0	4.6	4.2	-0.4
5	3.0	6.2	5.6	-0.6
6	3.5	7.0	9.1	2.1
7	4.0	7.8	6.7	-1.1
8	4.5	8.6	8.8	0.3
9	5.2	9.7	5.1	-4.6
10	6.0	11.0	14.3	3.3
11	6.5	11.8	13.8	2.1
12	7.0	12.6	16.7	4.1
13	7.0	12.6	18.5	5.9
14	8.0	14.2	11.5	-2.6
15	8.5	15.0	12.5	-2.5
16	9.0	15.8	9.9	-5.9
17	9.5	16.6	18.1	1.6

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R: Data Sets, Etc. for the Text "Using R for Introductory Statistics", Second Edition

Data Sets, Etc. for the Text "Using R for Introductory Statistics", Second Edition



Documentation for package 'UsingR' version 2.0-5

- [DESCRIPTION file.](#)
- [Package NEWS.](#)

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<https://cran.r-project.org/doc/contrib/Verzani-SimpleR.pdf>

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Package: UsingR
Version: 2.0-5
Title: Data Sets, Etc. for the Text "Using R for Introductory
       Statistics", Second Edition
Author: John Verzani <verzani@math.csi.cuny.edu>
Maintainer: John Verzani <verzani@math.csi.cuny.edu>
Description: A collection of data sets to accompany the
             textbook "Using R for Introductory Statistics," second
             edition.

```

simpleR – *Using R for Introductory Statistics*