

```

> x<-c(2.5,5.0,7.6,11.6,13.0,19.6,26.2,33.0,40.0,50.0,55.0)
> y<-c(7.68,6.95,6.30,5.75,5.01,1.43,0.9,0.72,0.69,0.65,0.56)
> exmp.lm<-lm(y~x)
> exmp.lm

Call:
lm(formula = y ~ x)

Coefficients:
(Intercept)          x
      6.732         -0.142

> summary(exmp.lm)

Call:
lm(formula = y ~ x)

Residuals:
    Min       1Q   Median       3Q      Max
-2.5191 -0.8448  0.6472  0.9725  1.6368

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)   6.7318     0.7593   8.866 9.65e-06 ***
x             -0.1420     0.0256  -5.546 0.000358 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.485 on 9 degrees of freedom
Multiple R-squared:  0.7736,    Adjusted R-squared:  0.7485
F-statistic: 30.76 on 1 and 9 DF,  p-value: 0.0003583

> anova(exmp.lm)

Analysis of Variance Table

Response: y
          Df Sum Sq Mean Sq F value    Pr(>F)
x           1  67.831   67.831   30.758 0.0003583 ***
Residuals   9  19.848    2.205
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

> prd<-predict(exmp.lm,int="c")
> prd

          fit          lwr          upr
1  6.3769167  4.7739281  7.9799053

```

```

2  6.0219793  4.5283978  7.5155608
3  5.6528445  4.2661521  7.0395369
4  5.0849448  3.8448626  6.3250270
5  4.8861799  3.6910365  6.0813233
6  3.9491454  2.9053431  4.9929476
7  3.0121108  1.9909148  4.0333069
8  2.0466813  0.9063645  3.1869981
9  1.0528568 -0.3216727  2.4273863
10 -0.3668925 -2.1837247  1.4499398
11 -1.0767671 -3.1403008  0.9867666

> pred.frame<-data.frame(x=c(8.7,16.2))
> pc<-predict(exmp.lm,int="c",newdata=pred.frame)
> pc

      fit      lwr      upr
1 5.496672 4.152681 6.840663
2 4.431860 3.323892 5.539828

> pp<-predict(exmp.lm,int="p",newdata=pred.frame)
> pp

      fit      lwr      upr
1 5.496672 1.8784447 9.114899
2 4.431860 0.8945094 7.969211

> names(exmp.lm)

[1] "coefficients" "residuals" "effects" "rank"
[5] "fitted.values" "assign" "qr" "df.residual"
[9] "xlevels" "call" "terms" "model"

> plot(x,y,ylim=c(-5,9))
> abline(exmp.lm)
> points(x,prd[,2],pch="1")
> points(x,prd[,3],pch="2")

```

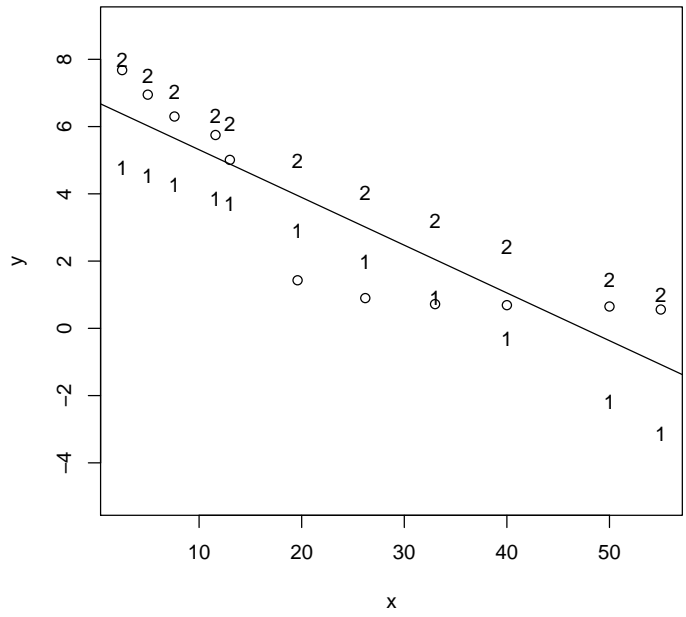


Figure 1: Plot of data and regression line