Simple Linear Regression

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## Lab 1, SOLUTIONS (DATA 2.7)

dat=read.csv("/home/jayibex/Desktop/Data\_Sets/Chapter 2/Problems/data-prob-2-7.csv", header = T)  
x=dat[,2]  
y=dat[,1]  
n=length(x)  
  
Sxx=sum(x^2)-sum(x)^2/n  
Sxy=sum(x\*y)-sum(x)\*sum(y)/n  
  
#LS estimates  
B1H=Sxy/ Sxx  
B1H

## [1] 11.80103

B0H=mean(y)-mean(x)\*B1H  
B0H

## [1] 77.86328

Problem 2. The estimate of the true error variance σ^2 is MSres given below

res = y- (B0H + x\*B1H)  
SSres = sum(res^2)  
MSres = SSres/(n-2)  
MSres

## [1] 12.93524

#estimated/fitted SLR line  
yH=B0H + sort(x)\*B1H  
  
#plotting  
plot(x,y)  
lines(sort(x),yH, col="red")

