Homework

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Sat Nov 04 13:49:44 2017

1. Fit the linear regression model with the following data. Interpret the coefficient estimates.

**Solution:**

Run the following R code to fit the linear regression model:

To see a summary of the regression results, run the following code and review the output:

##   
## Call:  
## lm(formula = Y ~ X)  
##   
## Residuals:  
## 1 2 3 4   
## -0.1651 0.1651 0.7441 -0.7441   
##   
## Coefficients:  
## Estimate Std. Error t value Pr(>|t|)  
## (Intercept) 0.8146 0.5390 1.511 0.270  
## X -1.2099 0.7622 -1.587 0.253  
##   
## Residual standard error: 0.7622 on 2 degrees of freedom  
## Multiple R-squared: 0.5575, Adjusted R-squared: 0.3363   
## F-statistic: 2.52 on 1 and 2 DF, p-value: 0.2533

The interpretation of the intercept is....

Our estimate is 0.81.

The estimated X coefficient is -1.21.

This can be interpreted as....