Prelab5

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##This is the Prelab5 of STATS 413
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(a.) Fit a multiple regression model to predict Sales using Price, Urban, and US.

```
library(ISLR)
data(Carseats)
model1<-lm(Sales~Price+Urban+US, data=Carseats)
summary(model1)
```

```
##
## Call:
## lm(formula = Sales ~ Price + Urban + US, data = Carseats)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -6.9206 -1.6220 -0.0564  1.5786  7.0581
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept) 13.043469   0.651012  20.036  < 2e-16 ***
## Price       -0.054459   0.005242 -10.389  < 2e-16 ***
## UrbanYes    -0.021916   0.271650  -0.081    0.936
## USYes        1.200573   0.259042   4.635 4.86e-06 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 2.472 on 396 degrees of freedom
## Multiple R-squared:  0.2393, Adjusted R-squared:  0.2335
## F-statistic: 41.52 on 3 and 396 DF,  p-value: < 2.2e-16
```

(b.) Provide an interpretation of each coefficient in the model. Be careful—some of the variables in the model are qualitative!

- Price: (-0.054459) unit of increase in Price would cause a 54.459 decrease in Sales, the variable Price is statistically significant.
- UrbanYes: (-0.021916): Sales are 22 lower for Urban locations, the variable Urban is not statistically significant.
- USYes: (1.200573): Sales are 1200.573 higher in the US locations, the variable US is statistically significant.