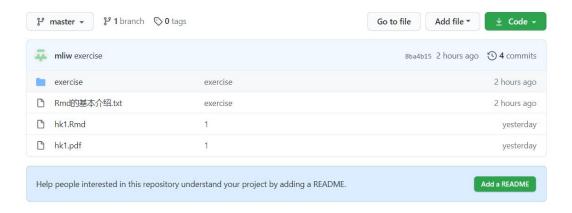
ECO395M STAT LEARNING Homework 1*

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Abstract

This document is the first homework of ECO395M STAT LEARNING. The projects **Gas Price**, a bike share network, flights at ABIA and K-nearest neighbors are included in this document. The whole project is available at here.



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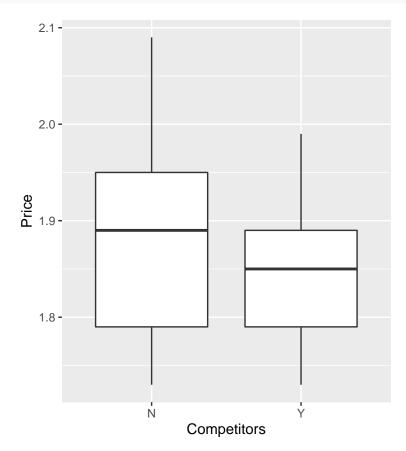
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(A) Gas stations charge more if they lack direct competition in sight (boxplot).

```
p0 = ggplot(data=gasprice) +
  geom_boxplot(aes(x=Competitors, y=Price))
p0
```

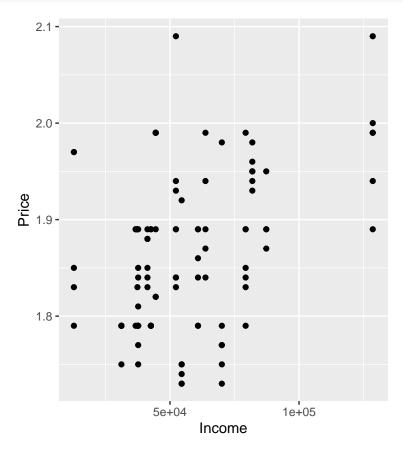


Claim: Gas stations charge more if they lack direct competition in sight

Conclusion: The theory is supported by the data. As the left box is higher than the right box.

(B) The richer the area, the higher the gas price (scatter plot).

```
p0 = ggplot(data=gasprice) +
  geom_point(aes(x=Income, y=Price))
p0
```



Claim: Gas stations charge more if they lack direct competition in sight

Conclusion: The theory is supported by the data. As the left box is higher than the right box.