Small Assignment 2

Due September 24th by 11:59pm PT. Download your notebook with your code and responses as a PDF via HTML and submit to Gradescope.

The following model is a simplified version of the multiple regression model used by Biddle and Hammermesh (1990) to study the tradeoff between time spent sleeping and working and to look at other factors affecting sleep

$$\text{sleep} = \beta_0 + \beta_1 \text{totwrk} + \beta_2 \text{yrsmarr} + \beta_3 \text{yngkid} + u$$

where sleep and total work are measured in minutes per week, yrsmarr is the number of years married, and yngkid is a dummy variable (taking a value of 0 or 1) for whether the person has a young child.

1. If adults trade off sleep for work, what is the sign of β_1?

(Note: typing the words "beta 1" is fine. If you want to have it as math notation, type: β_1 . You can double click this cell and copy the code.)

Double click to type your answer here.

2. What signs to you think β_2 and β_3 will have?

Double click to type your answer here.

3. Load in the dataset: sleep75.dta and estimate the above model using `lm()`. Display the results with the `summary()` command.

Hint: *Remember that this is a .dta file, meaning that the `haven` package and `read_dta()` commands will be useful. You may also look at the Jupyter Notebook for section 3, which uses these data, for some example code.*

In [5]:
```
##Code your answer here!
```

4. Interpret the effect $\hat{\beta}_1$.

Double click to type your answer here.

5. Discuss whether assumptions MLR1-MLR4 are reasonable or may be violated in these data.

Double Click to type your answer here.