

Week 2 Homework

1. Write the following equation using the Greek symbols as variable names and calculate the value of Y :

$$Y = \beta_0 + X \cdot \beta_1 + \epsilon$$

where, $\beta_0 = 4$, $X = 12.56$, $\beta_1 = -23$, $\epsilon = 0.1234$

2. Create a dictionary of Renaissance artists.

The keys should be the names Donatello, Michelangelo, Raphael, and Leonardo (Da Vinci of course).

The value for each key is a tuple containing each artist's city of birth, year of death, and the actor who voiced them in Teenage Mutant Ninja Turtles (<https://www.imdb.com/title/tt0318913/>)

3. Create a string containing the lyrics to Eiffel 65's (still amazing) song 'Blue [Da Ba Dee]' (<https://www.songfacts.com/lyrics/eiffel-65/blue-da-ba-dee>).

Calculate the number of characters in the lyrics [Hint: `length()`].

Split the lyrics into substrings at every occurrence of the word 'blue'

[Hint: `split()`].

4. Create two variables called `Series_A` and `Series_B`, each being a vector of 100 random numbers [Hint: `rand()`].

Plot `Series_A` against `Series_B` using the default line plot and overlay it with a scatter plot of the same data with diamond markers [Hint: `plot!()`].

Don't forget to include axes labels and a title!