Math 58B, Spring 2023 Jo Hardin WU # 4 Thursday 1/26/2023

Your Name: _____

Names of people you worked with: _____

Task: Use the following link to get to the regression applet: http://www.rossmanchance.com/applets/2021/regshuffle/regshuffle.htm

- 1. Click on "show movable line"
- 2. Click on "show residuals"
 - (a) Move the line around until you get SAE (sum of absolute errors) as small as possible.
 - (b) Write down the value you got for SAE.
 - (c) Write down the line you got which minimized the SAE.
- 3. Unclick "show residuals" and click on "show squared residuals"
 - (a) Move the line around until you get SSE (sum of squared errors) as small as possible.
 - (b) Write down the value you got for SSE.
 - (c) Write down the line you got which minimized the SSE.
- 4. Were the SAE and SSE lines the same? Should they be?

Solution:

- 1. done
- 2. (a) done
 - (b) SAE = 51.00
 - (c) height = 42.95 + 0.86*footlength
- 3. (a) done
 - (b) SSE = 235.19
 - (c) height = 38.49 + 1.02*footlength
- 4. No, the lines shouldn't be the same because they solve different optimization problems.