

Homework 1

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1. Intro

For this assignment I will be looking at the **women** data which is a built in dataset in R. This dataset records the average:

- Heights
- Weights

Of women in America between the ages of 30-39. These are also the **variables** for this dataset.

We will now load and inspect the first 6 lines of the data data

	height	weight
1	58	115
2	59	117
3	60	120
4	61	123
5	62	126
6	63	129

We can see get the average height for this dataset using the following formula:

$$\bar{x} = \frac{1}{n} \sum_{i=1}^n x_i$$

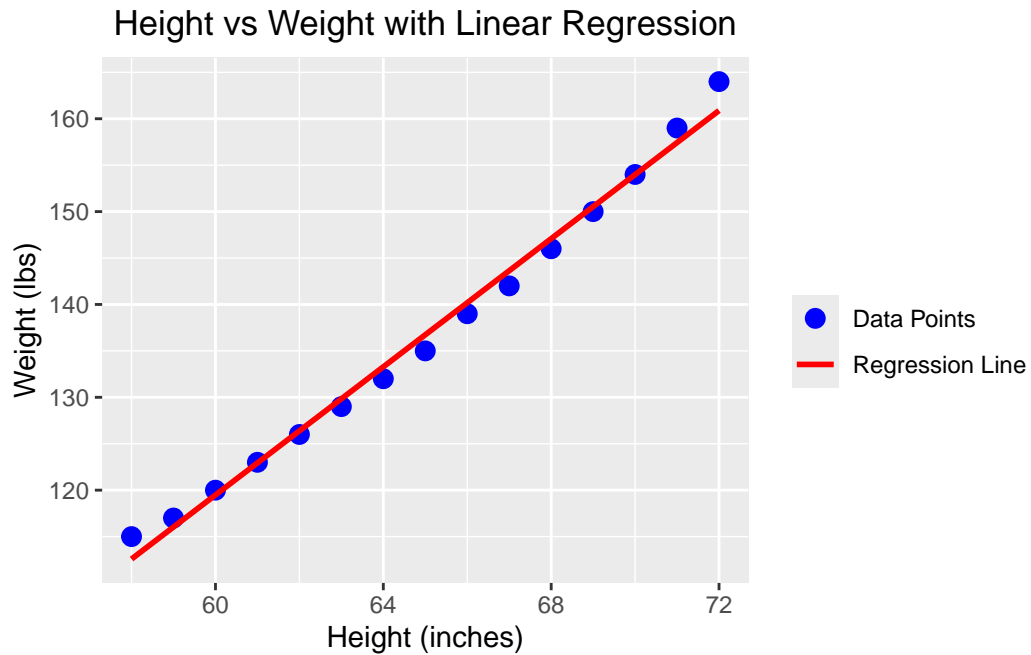
The average height is: 65

We will also find the average weight for this dataset using the same formula above

The average weight is: 136.7333333

2. Plot

Now we will plot this data. We can use the packages **ggplot2** for this. After loading it we can create our plot.



Looking at the plot there is a linear relationship between the `height` and `weight` of women in this dataset. It looks like as height increases weight also increases indicating a strong positive linear relationship.

I have also constructed a regression line for this plot. It is clear the regression line predicts the data very well.
