Week 3 – Homework

Chart, scatter chart

Description automatically generated

1. The Relationship is strong, and it would be reasonable to fit in a linear data model, although there are curves, it generally has a negative correlation
2. The relationship is strong, however it would not be reasonable to fit in a linear data moddle
3. The relationship is strong, and it would be perfectly reasonable to fit to a liner dta mdel
4. The relationship is weak, it is almost impossible to see any relationship, thereforth we can not fit this graph to a linear model.
5. This relationship is week, it would be hard to fit to a linear data model
6. The relationship is moderate, and it would be reasonable to fit to a linear data model

Chart, scatter chart

Description automatically generated

1. Based on these graphs, Exam 2 has the strongest correlation with the final exam, as the data is more linear than exam 1, that is very clustered.
2. Exam 2 may be more cumulative then exam 1, going over more similar content to the final exam.

Graphical user interface, diagram

Description automatically generated

1. Typically, the husband and wives are around the same age, making a positive linear correlation
2. There is no obvious correlation between the heights of the husbands and the heights of the wives.
3. The graph comparing ages has a stronger correlation because the plot can fit a linear model, However the heights, just show average height of each gender, and don’t have much correlation between both husbands and wives
4. No, just because the units are different, this would not change and correlation if there was any.

Chart, scatter chart

Description automatically generated

1. According to this graph, when it is colder, baby will take longer to start crawling
2. Changing the units would not affect the relationship
3. Nothing, changing units would not affect correlation. The new corrliation is still R = -0.70

Chart

Description automatically generated

1. There is a positive relationship, that can fit to a liner model.
2. Because we only know the number of Starbucks calories, and we need to find the number of carbs:  
   Calories is the explanatory  
   Carbs is the Response
3. In order to find the relationship between calories and carbs, to better help predict carbs
4. N/A

Chart, scatter chart

Description automatically generated

1. Y= 105.36 + 0.61\*x
2. The slope interpretation is for every .61 cm in height there shoulder width is 1cm bigger  
   The intercept interpretation would be a 105.36 cm person would have a shoulder width of 0. This is obviously impossible.
3. R = Correlation  
   R = 0.67  
   R^2 = 0.4489  
   This shoes that about 44.89% of height is explained by Shoulder girth. The higher the percentage, the more linear the model.
4. They would have a height of: 166.36 cm  
   105.36+0.61\*100 = Y
5. The residual was how far off our estimate was from the recorded data. Our residual in this situation is 6.36 cm
6. No, the data collected was only from adults, so comparing an infinite to this data would greatly mess the predictions.