Haonan Hu

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2863545

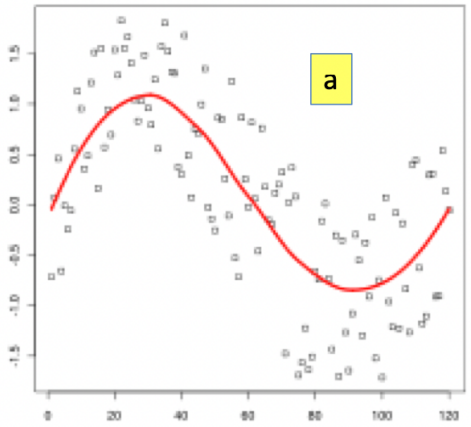
In-Class Problem

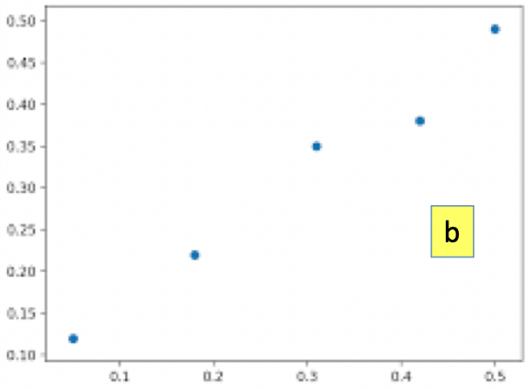
1. For the distribution of data shown in the graphs to the right, would you use linear or polynomial regression?

- For Question 2, assume we are trying to predict the variety of iris from only two features, petal length and petal width.
- Let:
  y = variety of iris
  where:
  y(Iris-setosa) = 1
  y(Iris-versicolor) = 2
  y(Iris-virginica) = 3
  x_1 = petal length
  x_2 = petal width

- You may work together.
- You may ask me or the SI for help.
- Turn in your problem when you are done:
- PDF submitted to BlackBoard before 11:59 PM
- You may leave when you are done.

2. Use this linear regression equation with B_0 = 0.2, B_1 = 0.1, and B_2 = 0.05 to predict the variety of an iris with a petal-length of 5.1 and a petal-width of 1.8.
   $y = B_0 + B_1x_1 + B_2x_2$





1. For the distribution of data shown in the graphs to the right, would you use liner or polynomial regression?
   a. **Using polynomial, because the relationship of data is not linear.**
   b. **Using linear, because the relationship of data is linear.**

2. Assume we are trying to predict the variety of iris from only two features, petal length and petal width. Using linear regression

equation to predict the variety of an iris with a petal-length of 5.1 and a petal-width of 1.8.

Y = 0.2 + 0.1*(x1) + 0.05*(x2) then plug in x1 = 5.1 and x2 = 1.8, y = 0.8 which is less than 1 and should be rounded to 1 by the context. So the prediction is iris-setosa.