AP Statistics Minitab Chapter 3 Activity

Men’s 100 Meter Olympic Dash Times (every year)

Paste your scatter plot and answers to the questions in a word document. Email the document to me (byoung@mosesbrown.org).

1. **Set Up**
2. Log on to the computer (use windows) and open Minitab (desktop or start—all programs).
3. When it asks you for license data edit the 27000 so that it reads 27000@mb-license. Hit enter.
4. Go to my website and download the men’s 100 meter data under the HW tab (the excel file). Copy everything from the file into Minitab.
5. **Scatter Plot**
	1. Have Minitab create a scatter plot of 100 meter dash times with time as the explanatory variable.
	2. Title your scatter plot and your axes.
	3. Add in a regression. Try a linear regression or another type of regression if you feel that it fits the data better. Also determine the r squared value.
6. **Questions about your scatter plot.**
	1. Write the equation of the regression.
	2. Describe the form, strength, and direction or the correlation.
	3. Use the regression to predict what the predicted world record time will be in 2020?
	4. What does the regression tell you about 100 meter dash records over time?
7. **Adding in a categorical variable**
	1. On the same graph, now see if you can distinguish runners in your scatter plot by the categorical variable of country. Play around with the colors for some of the countries as you see fit.
	2. What countries stand out as having some of the fastest men in the world?
	3. Make another scatter plot that distinguishes each runner by their medal (bronze, silver, or gold).