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HW8

Section 402

1. The correlation between wins and payroll appears very weak. Most of the teams have a payroll that appears to be below ~$110 million and the data points to the left of that (lower payrolls) are randomly scattered with respect to the y-axis (ie number of wins). For this reason I would expect the correlation to be close to zero but not exactly. Teams with a higher payroll (ie above $150 million) do all have more than 80 wins which is more than many other teams. For this reason I would expect the correlation coefficient to be a non-negative number close to zero, perhaps between 0.1 and 0.3. Since the shape of the data points is so ill-defined it’s difficult to definitively state what kind of relationship (assuming there is one) there is between the two; my best guess though would be that it is linear.
2. Using proc corr in SAS the correlation is found to be 0.366 with a p-value of .046 (H0: r = 0). This is good evidence that there is some positive correlation but rather weak and not too far off my original guess.
3. The correlation becomes slightly stronger moving up to 0.425 while the p-value also decreases slightly to .0214 (H0: r = 0). Also looking at the new scatter plot I suspect the relationship may be more like a log curve than just linear.
4. I think his argument is flawed in that he goes too far in saying higher payroll has no effect. He’s just looking at two cherry picked data points which aren’t representative of the bigger picture. It’s clear that having a higher payroll does typically result in more wins. However, it is also clear that payroll is not the end-all be-all of what makes teams win or lose. There are other factors at play of which payroll is one.
5. The population for these data is the MLB; that is to say, the professional baseball league of the United States and Canada. The sample isn’t really random since it contains every team in the MLB but that means you can make the same conclusions of scope that you would if it were random (these results can be applied to the MLB in its entirety).