OR 649 Sports Analytics

Assignment 2

1. Compute **by hand** the expected value, standard deviation and variance of the following set of an NBA team's score totals: 85, 99, 95, 104, 111. You may use a calculator for basic operations such as addition or division, but show me the process you use for your answers rather than using Excel or another tool to directly compute.

2. Using Excel or another tool, and assuming a normal distribution of scores, what is the probability that the team from #1 above:

a. scores > 100 points?

b. scores < 90 points?

c. scores between 90 and 100 points?

3. Determine the ratings for all 20 English Premier League teams from the 2014-15 season using the absolute error method. Which teams most over and under-performed their actual records? Compare your ratings with the standings from that season. What inference can you make about the champion?

(Data can be found in .xls file provided.)

4. Repeat the analysis for the EPL from problem #1 using the probit method. Determine and briefly describe your own method for handling ties, which are frequent in soccer.