Solve the following problems using Excel,

Problem 1:
A company that produces universal remote controls wanted to determine the number of remote control devices American homes contain. The company hired a statistician to survey 240 randomly selected homes and determine the number of remote controls. If there are 100 million households, estimate with 99% confidence the total number of remote controls in the United States.

Problem 2:
A fast-food franchiser is considering building a restaurant at a certain location. Based on financial analyses, a site is acceptable only if the number of pedestrians passing the location averages more than 100 per hour. The number of pedestrians observed for each of 40 hours was recorded, can we conclude at the 1% significance level that the site is acceptable? *HINT: you need to estimate the standard deviation, you can assume normal distribution for the test.*

Problem 3:
Assume that the fast-food franchiser in Problem 2 was unable to provide enough evidence that the site is acceptable. She is concerned that she may be missing an opportunity to locate the restaurant in a profitable location. She feels that if the actual mean is 104, the restaurant is likely to be very successful. Determine the probability of a Type II error when the mean is 104. *HINT: consider 1% significance level, i.e., 2.33 as the critical value.*

NOTE: You can submit your answers in an excel file (with a sheet for each problem) or by taking screenshots in a pdf file (copy-pasting in a word file and then turning it into a pdf file).