DUE: November 28th, 2018 at 11:59 PM

QMM 1001 - Statistics for Data Analytics Lab 9 /16

Create and submit an R script which, when run, will print the answers to the following questions. Your R script must include a title with your name and student number and comments for each question number and letter.

1. **(8 marks)** A group of 350 employees is randomly selected at a large company. They are asked if they spend greater than 4 hours a day looking at a computer screen. 288 responded yes.
    a. Find a 95% confidence interval for the population proportion of employees that spend greater than 4 hours a day looking at a computer screen. (3 marks)
    b. Assume that the sample proportion stays the same but the number of employees selected is increased to 1400. Find an 85% confidence interval for the population proportion of employees that spend greater than 4 hours a day looking at a computer screen. (3 marks)
    c. What happens to the width of the confidence interval in part b compared to part a? Explain. (2 marks)
2. **(8 marks)** Write a function that takes as input the estimated population proportion, the margin of error, and the confidence level and outputs the required sample size. Using your function, answer the following question: It is believed that 25% of adults over the age of 50 never graduated from high school. We wish to see if this percentage is the same among the 25 to 30 age group. How many of this younger age group must be surveyed in order to estimate the proportion of non-graduates to within $\pm 5\%$ with 95% confidence?

Save your R Script as: Last Name, First Name LAB 9

Upload your R Script to the "R Assignment – Lab 9" drop box on Moodle before November 28th at 11:59 PM.