Name _____

Student Number _____

STA 312 f2023 Quiz 5

1. (3 points) For Question 3 of Assignment 5, you obtained the maximum likelihood estimate of the parameter λ from an exponential distribution, *by a numerical search*. Write the number in the space below. On your printout, circle the number and write "Question 1" beside it. **The code for the function definition and the numerical search must be shown.**

2. (2 points) Still for Question 3 of Assignment 5, you calculated an estimate of the asymptotic variance of $\widehat{\lambda}$, *based on a numerical search*. Write the number in the space below. On your printout, circle the number and write "Question 2" beside it. **The code for the function definition and the numerical search must be shown, as well as the number.**

3. (3 points) For **Question 4** of Assignment 5 (the last question), you you analyzed numerical data from a log-normal distribution. In the space below, write the maximum likelihood estimate of the pair (μ, σ^2). The answer is a set of two numbers. On your printout, circle the numbers and write "Question 3" beside them. **The code for the function definition and the numerical search must be shown.**

4. (2 points) Still for Question 4 of Assignment 5, you produced a 95% confidence interval for μ. Write the confidence interval in the space below: Just two numbers, a lower limit and an upper limit. On your printout, circle the numbers and write "Question 4" beside them. **The code for the numerical search and the confidence interval must be shown.**

Please attach the printout(s) with your answers to the questions above. **Make sure your name and student number are written on the printout(s)**.