Introduction:

In this assignment, we are given random interarrival times of customers and we are asked to simulate the system. We are not given the distribution type of our random numbers and we need to acquire that knowledge through tests.

Abstract:

Objective is to determine the distribution of random numbers through tests, draw the frequency histogram and QQ-plot then simulate the system.

Problem Description and Model:

To begin with, the given random numbers should fit to a distribution if possible. We used Kolmogorov-Smirnov test to see if the values have any element that doesn’t belong to uniform distribution. Then, drawing frequency histograms and evaluating the shape of it. Then applying chi-square test to see if the values are of exponential distribution. Afterwards, drawing the QQ-plot of the interarrival times with respect to observation times and see if there is an obvious pattern. And, in the end simulating this process event oriented.