**Week 9 Individual Homework Assignment**

**Q1.**

Consider the following table showing the initial 10 replications from the Model 6-1 in the textbook. We want to use Total Cost to determine the number of replications.

|  |  |  |
| --- | --- | --- |
| **Replication** | **Total Cost ($)** | **Percent Rejected** |
| 1 | 22,385.64 | 12.2759 |
| 2 | 20,612.12 | 11.6059 |
| 3 | 23,837.38 | 10.4558 |
| 4 | 21,915.24 | 11.9110 |
| 5 | 22,462.34 | 13.5546 |
| 6 | 20,573.78 | 10.9804 |
| 7 | 20,935.88 | 10.1093 |
| 8 | 22,078.91 | 9.4256 |
| 9 | 20,056.75 | 9.4972 |
| 10 | 21,325.23 | 11.3388 |

Our textbook explains three different ways to compute the number of replications. Use all three methods to compute the number of replications in order to reduce the initial margin of error to half. We all use 95% confidence interval.

1. Exact method:



1. Normal distribution approximation

Diagram, schematic

Description automatically generated with medium confidence

1. Another easier approximation

Text

Description automatically generated

Q2.

Develop and run the OAPM (10) lab Arena model in the Week 9 Module and, **export results to the database as an Excel file**, and upload the Excel file as the solution (5 points).