CSE 411 Assignment 1
Version 0

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1 Brief Description

1.1 Task Summary

Consider the uploaded python file named "StudentID.py". You will find a code
skeleton for our task written in Python 3. The target of the task is to simulate
an M/M/k system with a single queue. Complete the skeleton code and produce
results for three experiments. The study is mainly to show various results of
a queue against its ro parameter. ro is defined as the ratio of arrival rate vs
service rate. For the sake of comparison, while plotting results from simulation,
also produce the analytical results. You do not have to show the comparison
but you should check it by yourself. Note that the code is self explanatory.
Understanding the code is also the part of your assignment. The skeleton code
is written in python 3.6. To run the code, you have to install matplotlib.

1.2 Flexibility

- You can use extra variables and you can write extra functions inside the
  classes given. You have the freedom to do that. You are also free to write
  extra files.

- The code is given in python language. After studying the code carefully,
  if you understand the requirement clearly, then you may write the whole
  code in other common programming languages (e.g., C, C++, Java etc.)

1.3 How to Produce Analytical Results

Well, we have discussed about the possible related analytical solution technique
with limitations in our class. You will find the discussion at the end of the
lecture slide titled "Chapter1.pptx" (can be found now in the moodle). Also
you can see Appendix 1B of Chapter 1 of the reference book.

2   Submission Guideline

2.1   Submission Deadline

I believe that a vacation is a vacation. So I wanted to give you the assignment after the vacation ends. I think you have the ability to complete this assignment within two weeks of time. So the deadline is 11:50 PM, July 8 (June 23 + 15 days). But, I am sharing it now so that you can study it earlier if you want to do or if you have enough time in hand.

2.2   Submission Procedure

Complete the code.

- If you write the code in a single file (whatever the language is) then rename it to your student id and upload it.

- On the other hand, if you write in multiple files, then first of all, each file should contain your student id. For example, "1405123_file1.py", "1405123_mainFile.py" etc. Put the files under a folder. The naming format of the folder should be <StudentID>_<Language>. For example, "1405123_Python". Finally, zip the folder and upload.

3   Ethical Issues and Communication

3.1   Ethical Issues

The solution of the problem can be easily found around. But I believe in you. I believe that for some marks, you should not copy it from your friends, senior/junior students or from the web. You should do it by yourself. I am requesting you NOT TO COPY BY ANY MEAN. If you can not complete it, submit whatever you will do. But never copy. Remember that, you can escape me but you cannot escape yourself. Keep your honor, my one too.

3.2   About Communication

As I have already told that the problem is self explanatory and understanding the code is also the part of your assignment, so you should study by yourself and make things clear. You can mail (not social communication media) me (madhusudan.buet@gmail.com) but it is highly unlikely to get answer if the question falls inside the "understanding the code" region.

4   Version

This section contains the version of the assignment. It starts with Version 0. If I find some major problems in this assignment description file, then I may

slightly change this pdf. If such a change occurs, then I shall increase the version number and list the changes in this section. So, before submitting, time to time check this pdf in the moodle to see whether the version is changed or not. If it is changed, the first read this section to see where the changes have been made. On the other hand, if the changes are minor (for example, correcting the grammatical mistakes), then version number will not be changed.

4.1   Version 0

This is the initial version of the problem description pdf.