ASSIGNMENT 8

# Modeling different scheduling algorithms using Petri Nets

In this assignment, we will learn to simulate different scheduling algorithms and compare their performances using Petri Nets in SHARPE tool.

Problem Statement C1 (Compulsory; Difficulty level *; 100 points)

Simulate the given two scenarios in sharpe-gui, also analyse and compare the performances:
- **Scenario 1**: Waiter takes order from customer 1; serves customer 1; takes order from customer 2; serves customer 2.
- **Scenario 2**: Waiter takes order from customer 1; takes order from customer 2; serves customer 2; serves customer 1.

Assume traffic mean arrival rate and mean service rate accordingly.
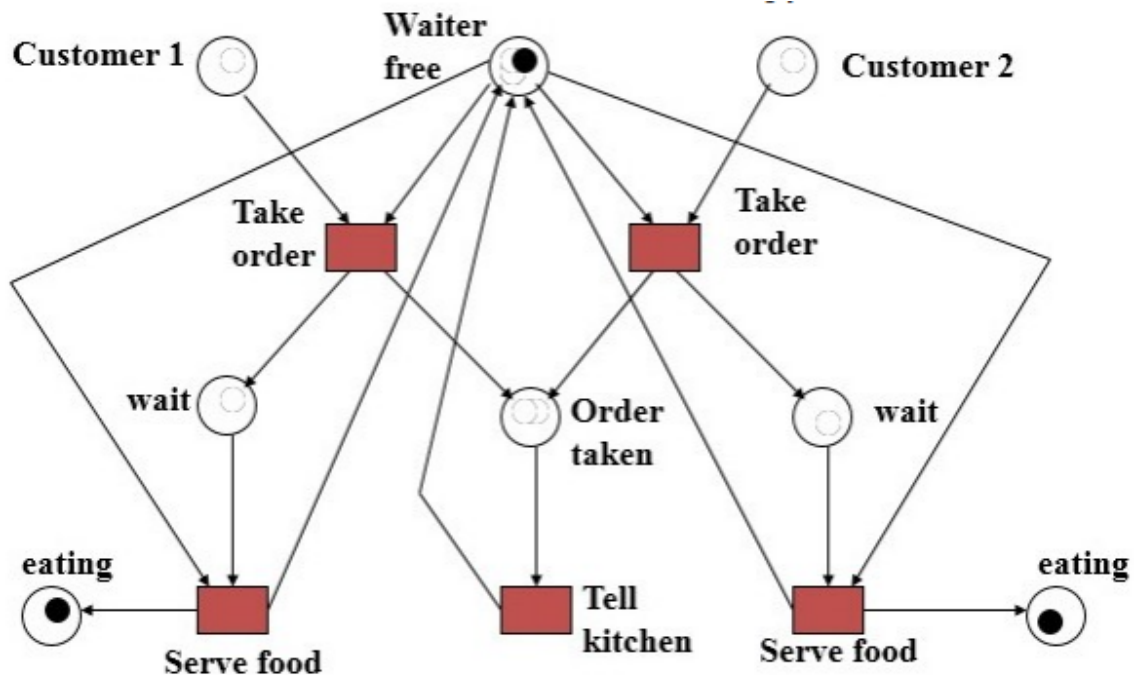
Problem Statement O1 (Optional; Difficulty level **; 15 bonus marks)

Scenario 3: customers are served on priority basis. Customer 1 type traffic given higher priority to customer 2 type (ex: voice given priority to data).

Problem Statement O2 (Optional; Difficulty level ***; 20 bonus marks)

Scenario 4: Introduce one more type of customer, say type 3 customer and serve them as
1. Priority scheduling (signaling traffic (type 3) preferred over voice (type 2) which is preferred over data (type 1))
2. Round Robin scheduling

NOTE:
- The assignment must be uploaded to https://sakai.iitd.ac.in (in certain exceptional cases, the TAs may allow it to be mailed to dslab2013.iitd@gmail.com)
- Submission deadline is 5 PM today
- Submit a zip file named assignno_entryno having 2 folders:
  1. CODE: Suitable files associated with the assignment
  2. DOCUMENTATION: .pdf and .tex file of your report

Copying is counter-productive and will be penalized.

Reading instructions for the next session

In next session, we will be using Wireshark for analysing network traffic. Please refer to following links for help:

http://www.howtogeek.com/104278/how-to-use-wireshark-to-capture-filter-and-inspect-packets/
http://www.wireshark.org/docs/wsug_html_chunked/ChapterIntroduction.html