WARM UP PERIOD ELIMINATION USING TSW AND MEAN CROSSING RULE

SETTINGS

QUEUE SETTINGS	
Arrival Rate	2
Departure Rate	1
Queue Length	5
Servers	2
Customers at Start	0
ALGORITHM SETTINGS	
TSW : Window length	10
Crossing of the Mean Limit	4
Mean	0

*Lost customers are not considered as arrivals.

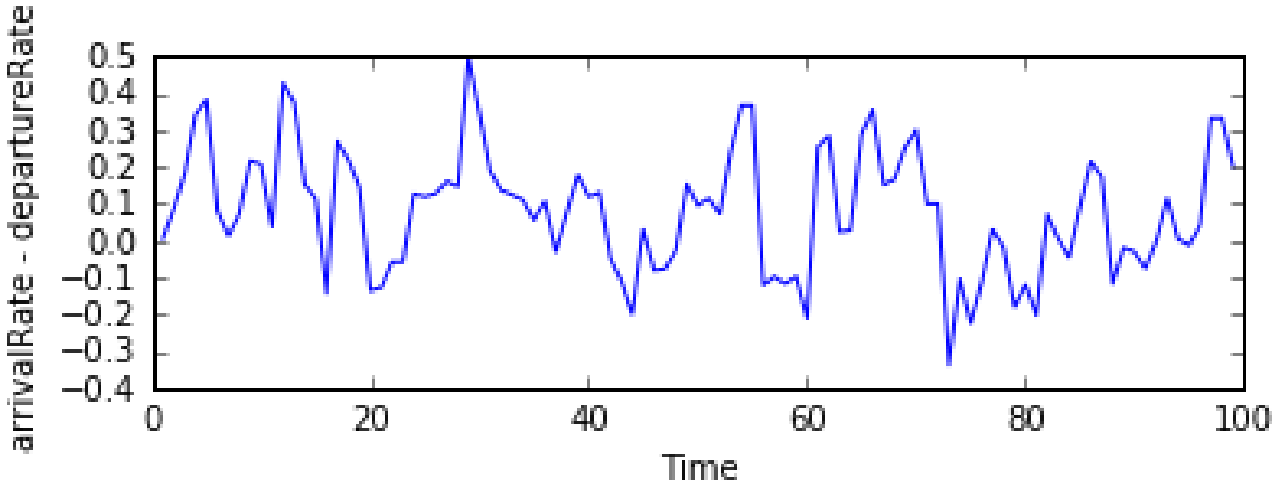
PSEUDOCODE

For every t: (assume t takes 1 step each time)

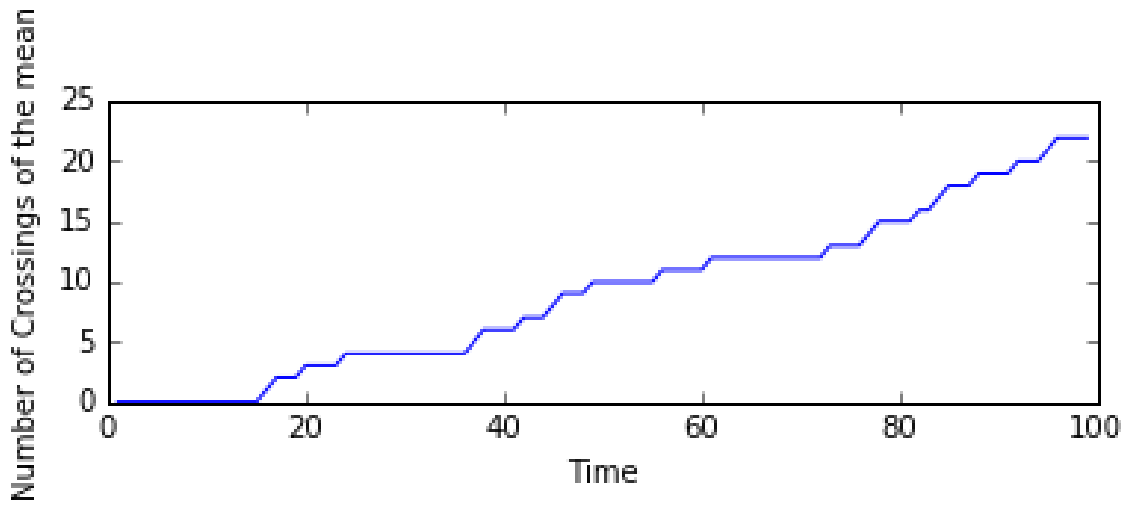
a. Compute (arrival rate - departure rate) using TSW.
b. Compute number of crossings of mean using Crossings of the Mean Rule.
c. Stop if the number in step b) meets certain threshold.

RESULTS

Below plot shows time vs. (arrival rate – departure rate)



If we set the “Crossing of the mean threshold” as 4.0, then the system reaches stationary state around t = 24



Warm up period as per Welch method ~ t20

Warm up period as per Zobel white method ~ t18

Warm up period as per TSW and Crossing mean rule ~ t24

Steps to run code:

- Code written in python.
- Install Numpy and Matplotlib.
- Python TSW_Estimator.py

NEXT STEPS:

Need guidance in terms of configuring the window length and crossing of the mean limit threshold