

FNBS Bank:

The First New Brunswick Savings (FNBS) bank opens at 8am and closes at 4pm. The time between arrivals for the customers follow the distributions given below:

- Exponential 5 minutes between 8am & 11am
- Exponential 4 minutes between 11am & 1pm
- Exponential 6 minutes between 1pm & 4pm

Customers come to the bank for various services. Past data has shown that 50% of the customers come to withdraw money, 30% come to deposit money and 20% come for other banking services (this is true for all the three time windows mentioned above). The service time distributions are given in the table below:

	Service time for Withdrawal (mins)	Service time for Deposit (mins)	Service time for other services (mins)
8am - 11am	Uniform(3,5)	Uniform(4,6)	Triangular(5,13,18)
11am - 1pm	Uniform(3,7)	Uniform(3,8)	Triangular(4,11,17)
1pm - 4pm	Uniform(4,8)	Uniform(5,9)	Triangular(5,14,19)

In FNBS there are two agents that serve a single queue for both withdrawal and deposit services and two other agents that serve another single queue for other services. The agents serving the withdrawal & deposit queue, give higher priority to customers who have come to deposit money.

Simulate the banking operations at FNBS for 2160 minutes and fill-up the following table:

Total number of customers completing their transactions between 8am-11am	
Total number of customers completing their transactions between 11am-1pm	
Total number of customers completing their transactions between 1pm-4pm	
Total number of customers who enter the bank to withdraw money between 8am-11am	
Total number of customers who enter the bank to withdraw money between 11am-1pm	
Total number of customers who enter the bank to withdraw money between 1pm-4pm	
Total number of customers who enter the bank to deposit money between 8am-11am	
Total number of customers who enter the bank to deposit money between 11am-1pm	
Total number of customers who enter the bank to deposit money between 1pm-4pm	
Average waiting time in the withdrawal-deposit queue between 8am-11am	
Average waiting time in the withdrawal-deposit queue between 11am-1pm	
Average waiting time in the withdrawal-deposit queue between 1pm-4pm	
Average Utilization of the agents serving the withdrawal-deposit customers	
Average Utilization of the agents serving the customers who come for other services	

Instructions for uploading your reports:

One person from each group should email a report (.doc or pdf) answering the questions given above and the Arena executable file (.doe) to arenaprojectapds@gmail.com. Rename the files based on your Group numbers. For example, group 1 should rename their report Group 1.doc or Group 1.pdf and their Arena file Group 1.doe. We are using the same group allocation as in APDS project.

This group assignment will constitute 50% weightage for the Stochastic Process module.

Submission deadline: September 16, 2018