Part a:

Input:
1.0 0.5 1000

Output:
Single-server queueing system

mean interarrival time 1.0 minutes

Mean service time 0.5

Number of customers 1000

Average delay in queue 0.612097304909462

Average number in queue 0.6234633689776302

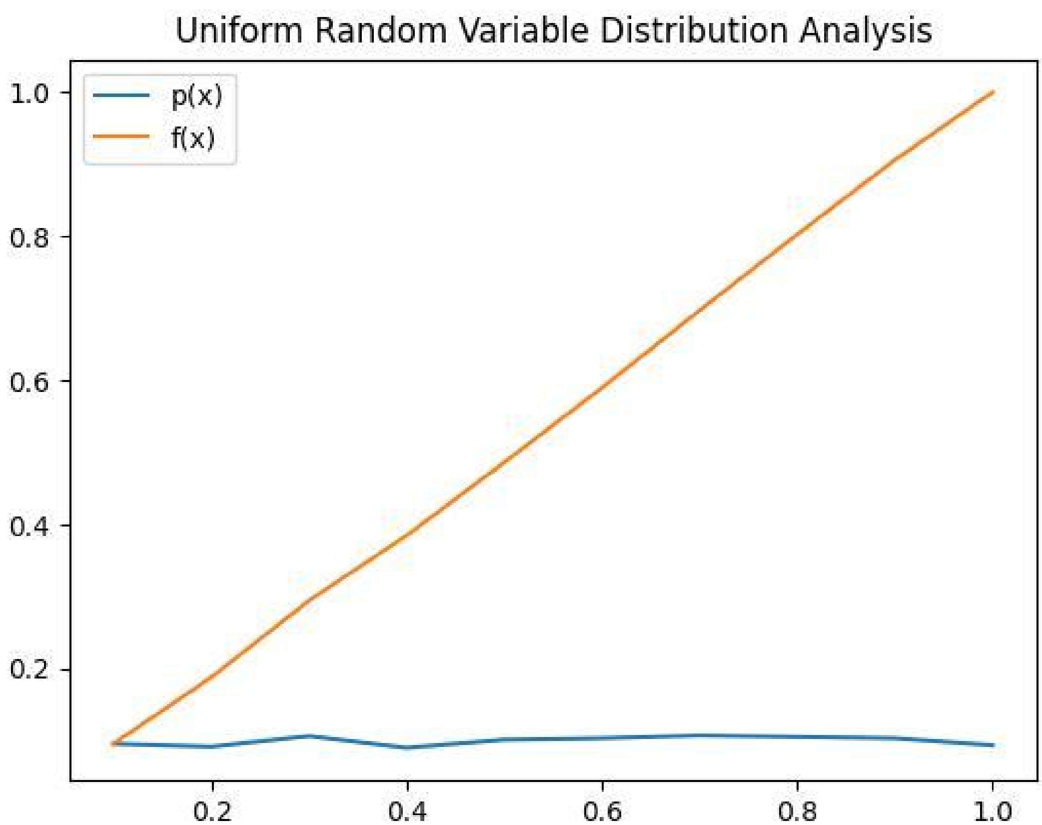
Server utilization 0.497061551565219

Time simulation ended 981.7694757483404

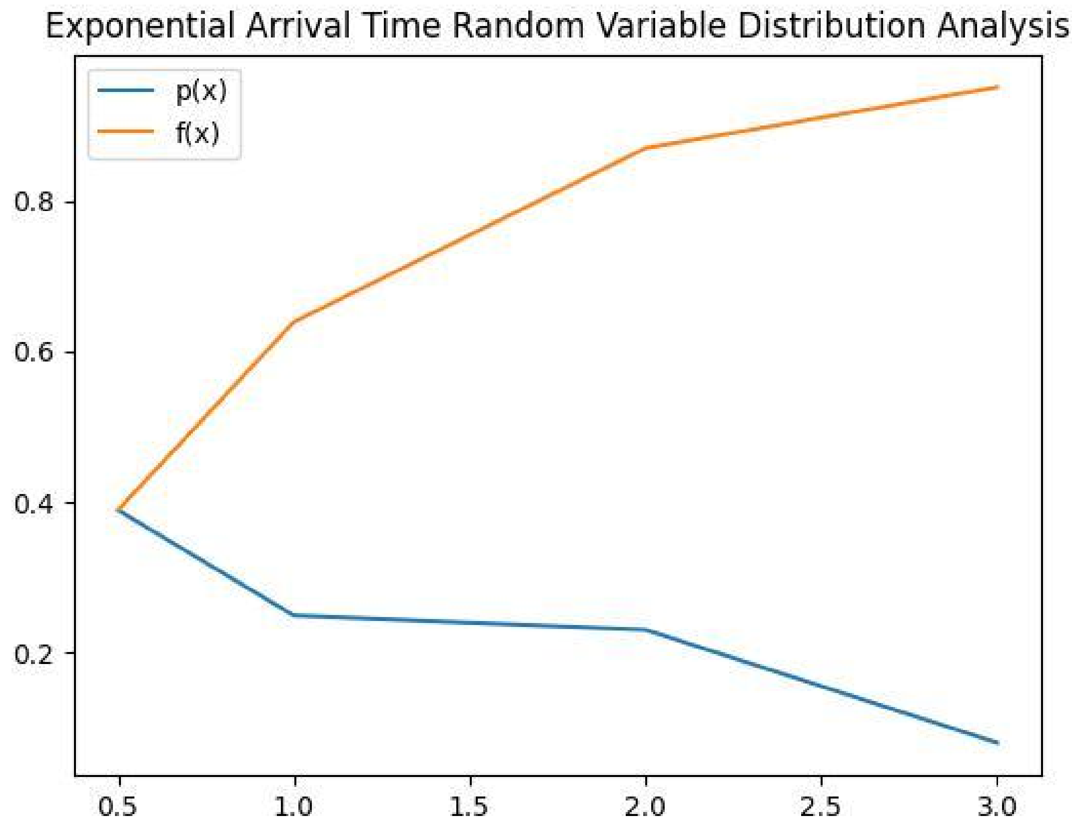
Part b:

	K	Average delay in queue	Average number in queue	Server utilization	Time the simulation ended
	0.5	0.62	0.66	0.54	951.5
	0.6	0.78	0.81	0.62	962.66
	0.7	1.77	1.76	0.7	1001.03
	0.8	2.31	2.26	0.76	1021.49
	0.9	5.08	5.15	0.86	1005.01

Part c:
For uniform distribution:
p(x) = [0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0]
f(x) = [192, 184, 213, 181, 203, 207, 215, 211, 207, 188]



For exponential distribution of arrival time:
p(x): [0.3896, 0.2497, 0.2307, 0.0809]
f(x): [0.3896, 0.6393, 0.8701, 0.9510]



For exponential distribution of service time:
p(x): [0.415, 0.233, 0.226, 0.08]
f(x): [0.415, 0.648, 0.874, 0.954]