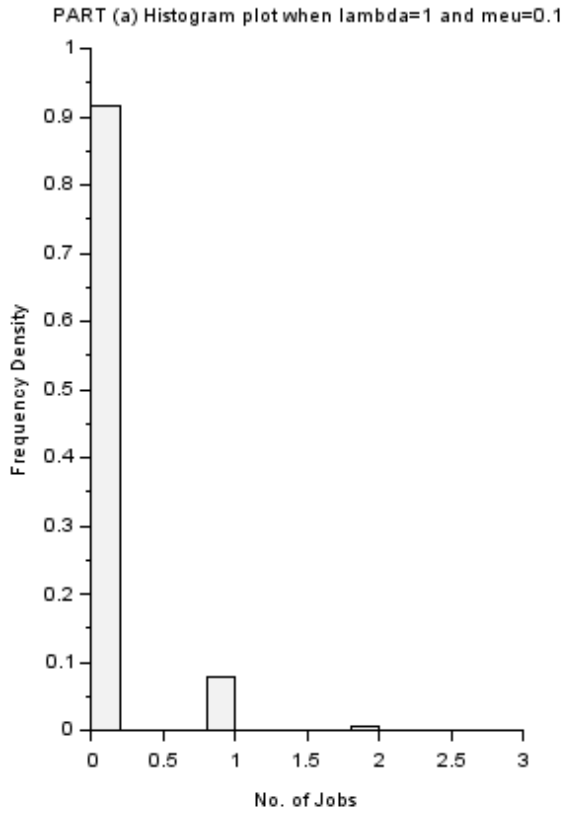
NAME: SHUBHAM SHARMA

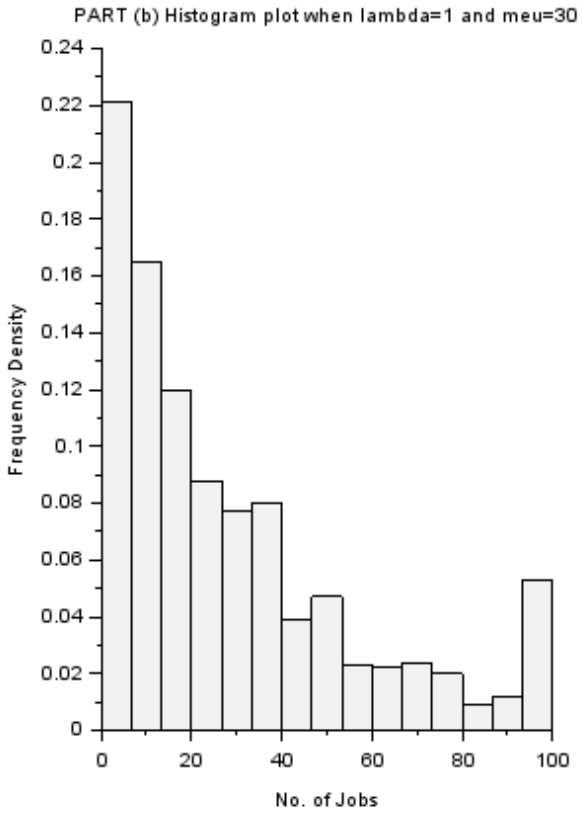
ROLL NO: 18i190002

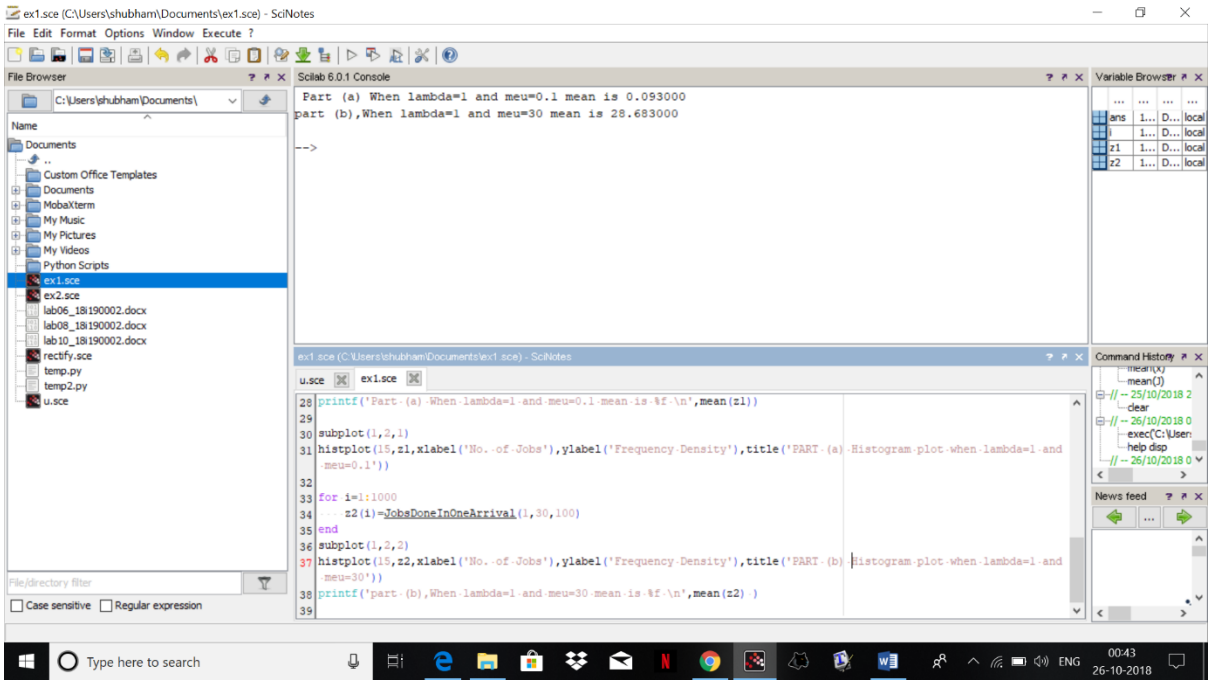
MSC PHD (OR)

EX1:

part(a) and part(b)[R]







Part(a) When x=100 . lambda=1 and meu=0.1 . **The mean number of jobs completed is: 0.093**

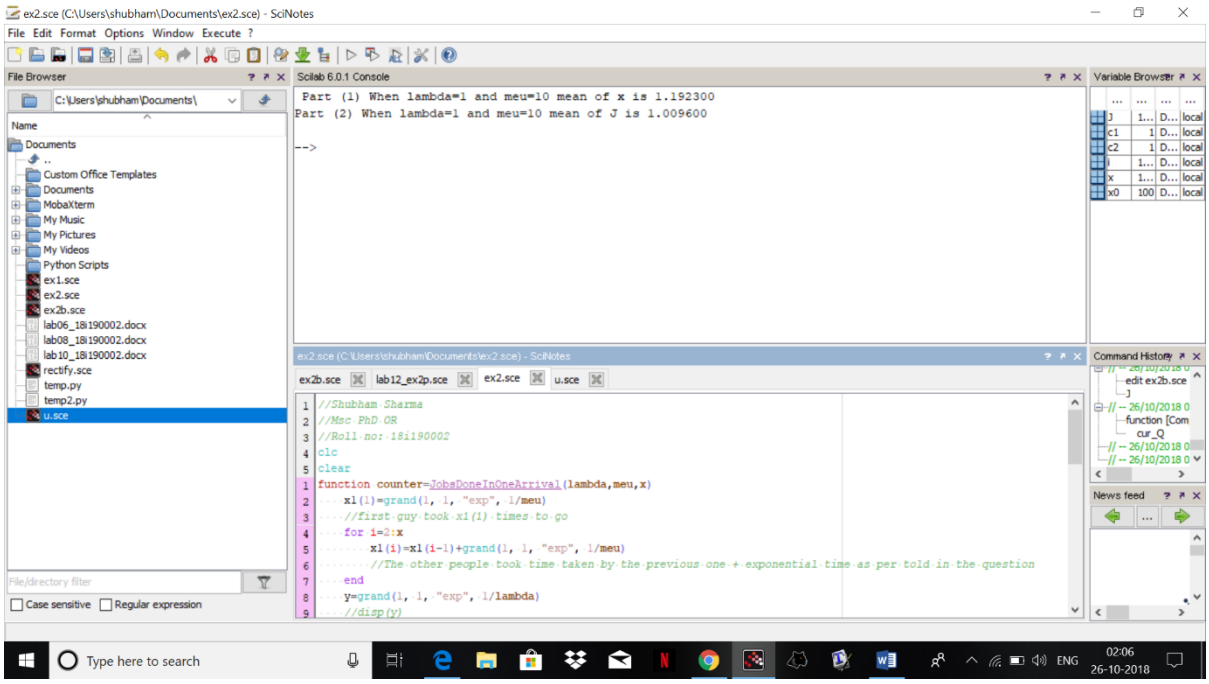
Part(b) When x=100 . lambda=1 and meu=30 . **The mean number of jobs completed is: 28.683**

part(c)

Since when lambda=1 and meu=0.1 ,then we can see from the graph , it is not able to complete all the jobs compared to when lambda=1 and meu=30.

EX2:

part(1) and part(2)[R]



Part (1) When lambda=1 and meu=10 mean of x is **1.192300**

Part (2) When lambda=1 and meu=10 mean of J is **1.009600**

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part(3)

As we can see , the coming vector X of X_i's is coming to be 1 after some time which is a good thing as only one person has to wait. The process is called poisson process.

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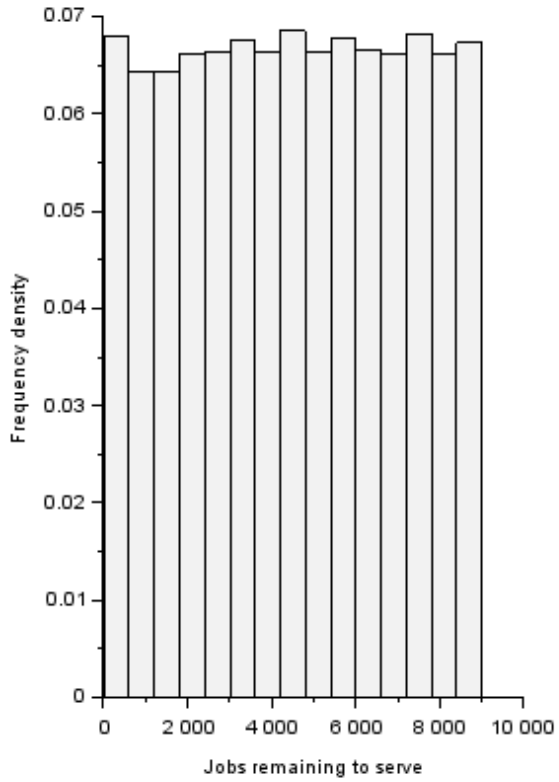
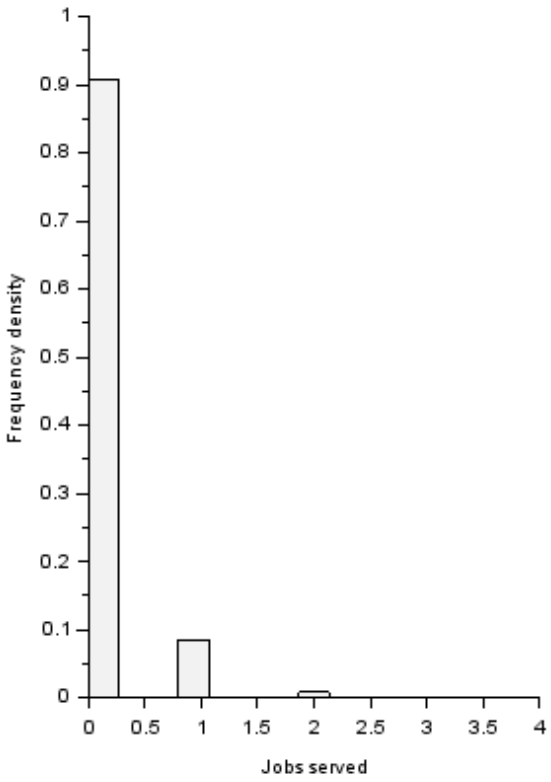
part(4)





Part (1) When lambda=1 and meu=10 mean of x is **4522.641600**

Part (2) When lambda=1 and meu=10 mean of J is **0.100800**

Here, we can see that average service time is 10 units and average rate is 1 unit. So most of the time the jobs completed will be zero and the number of jobs in the queue keeps on increasing by 1 per loop. So we can see that the jobs served are pile up at 0.