Financial Engineering Lab
MA374
Lab 1

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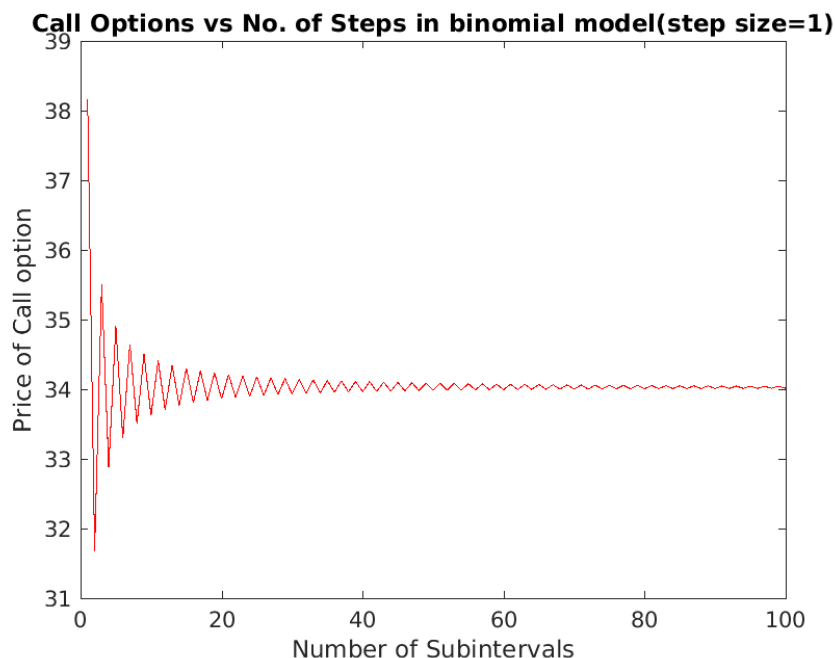## 170123001

Question 1

M	CallOptions	PutOptions
1	38.168	19.942
5	34.907	16.681
10	33.625	15.399
20	33.859	15.634
50	33.981	15.755
100	34.011	15.785
200	34.02	15.794
400	34.019	15.793

Question 2

For Step size 1, Range choosen for M= (1,100);
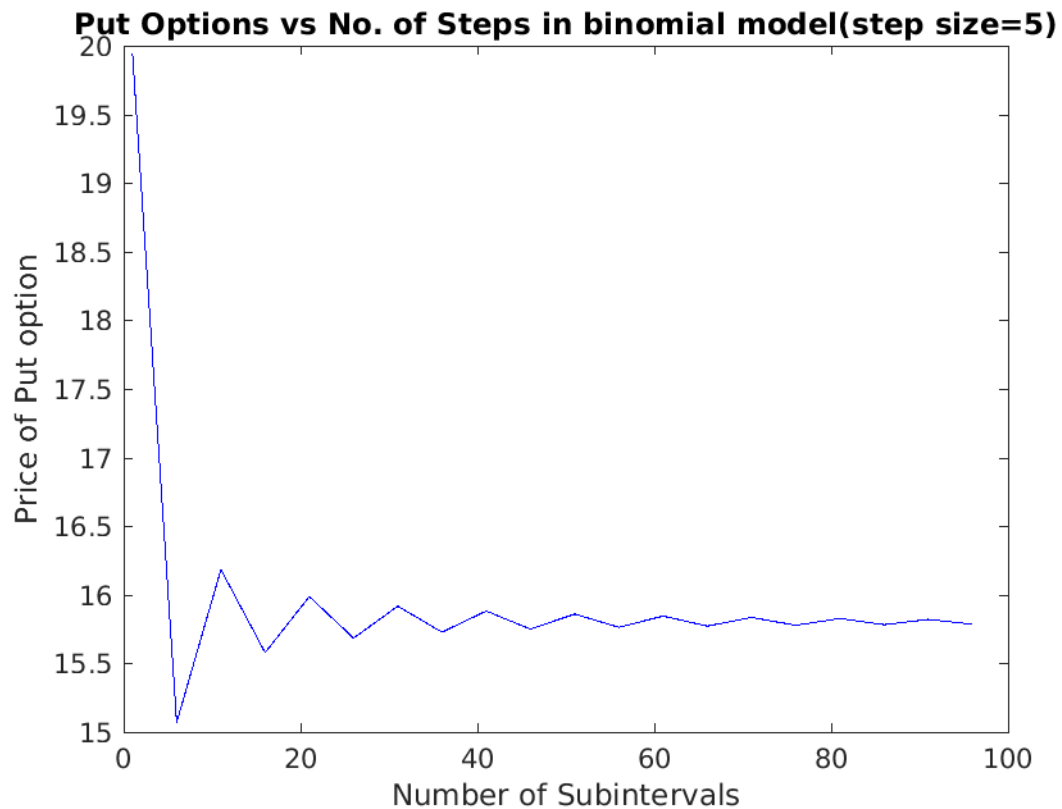
Call Option Graph

Put Option Graph

Put Options vs No. of Steps in binomial model(step size=1)
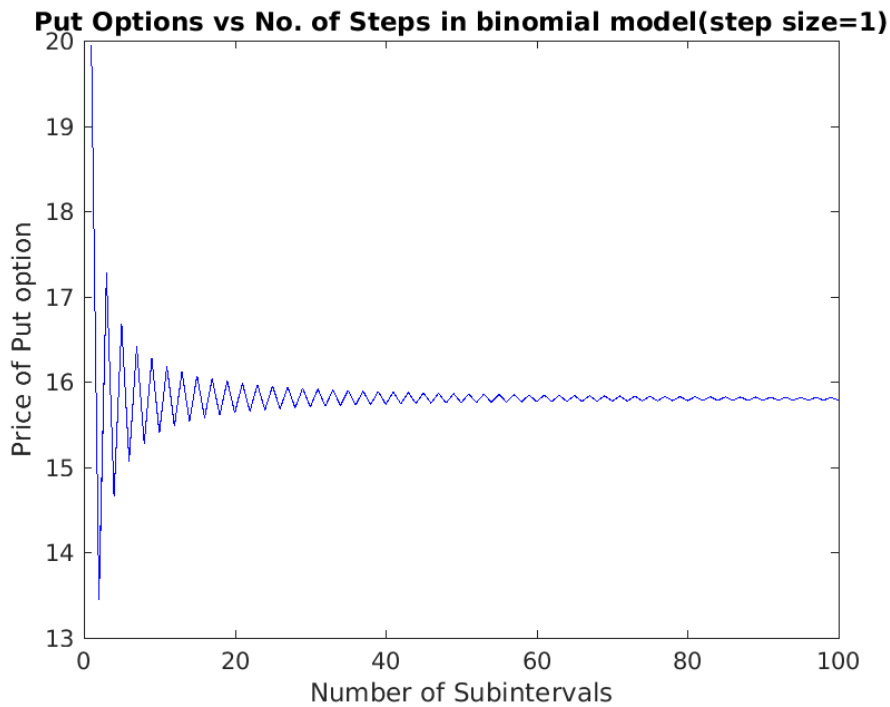
For Step size 5, Range choosen for M= (1,100)

Call Option Graph

Call Options vs No. of Steps in binomial model(step size=5)

Put Option Graph

Put Options vs No. of Steps in binomial model(step size=5)

Y-axis: Price of Put option (15 to 20)
X-axis: Number of Subintervals (0 to 100)
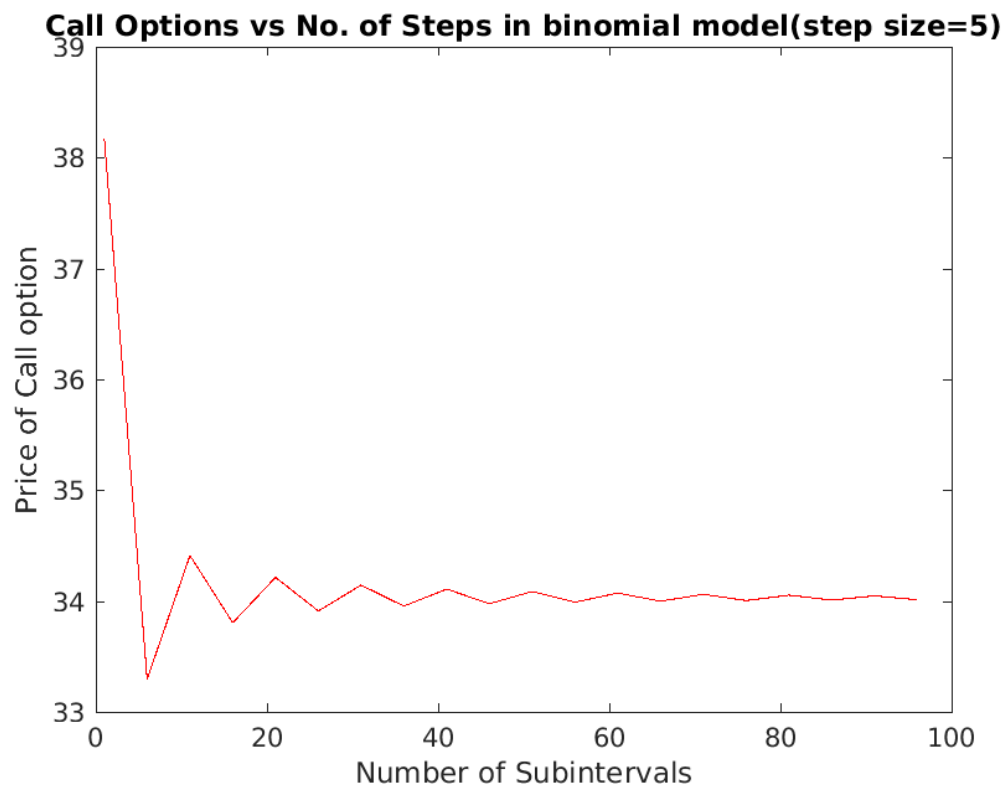
Question 3

Call option Table for Time = [0,0.5,1,1.5,3,4.5] and M=20.

T0	T05	T10	T15	T30	T45
33.859	59.959	100.66	160.61	519.1	1419.4
0	31.893	57.7	98.439	359.93	1025
0	15.096	29.804	55.295	242.03	732.79
0	0	13.47	27.573	154.84	516.32
0	0	5.1548	11.767	91.193	355.96
0	0	0	4.1214	46.976	237.16
0	0	0	1.125	19.725	149.15
0	0	0	0	6.1485	83.951
0	0	0	0	1.236	36.251
0	0	0	0	0.11833	8.1492
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0

Put Option Table for Time = [0,0.5,1,1.5,3,4.5] and M=20.

T0	T05	T10	T15	T30	T45
15.634	8.4792	3.5042	0.94243	0	0
0	15.487	8.0042	2.9982	0	0
0	24.673	15.269	7.4363	0.0087053	0
0	0	24.983	14.963	0.1721	0
0	0	35.965	25.271	1.2357	0
0	0	0	36.97	4.9582	0
0	0	0	48.305	13.222	0
0	0	0	0	25.955	0
0	0	0	0	40.533	0.60155
0	0	0	0	53.855	8.2812
0	0	0	0	64.433	26.64
0	0	0	0	72.358	46.278
0	0	0	0	78.228	60.825
0	0	0	0	0	71.603
0	0	0	0	0	79.587
0	0	0	0	0	85.502
0	0	0	0	0	89.883
0	0	0	0	0	93.129
0	0	0	0	0	95.534
0	0	0	0	0	0
0	0	0	0	0	0