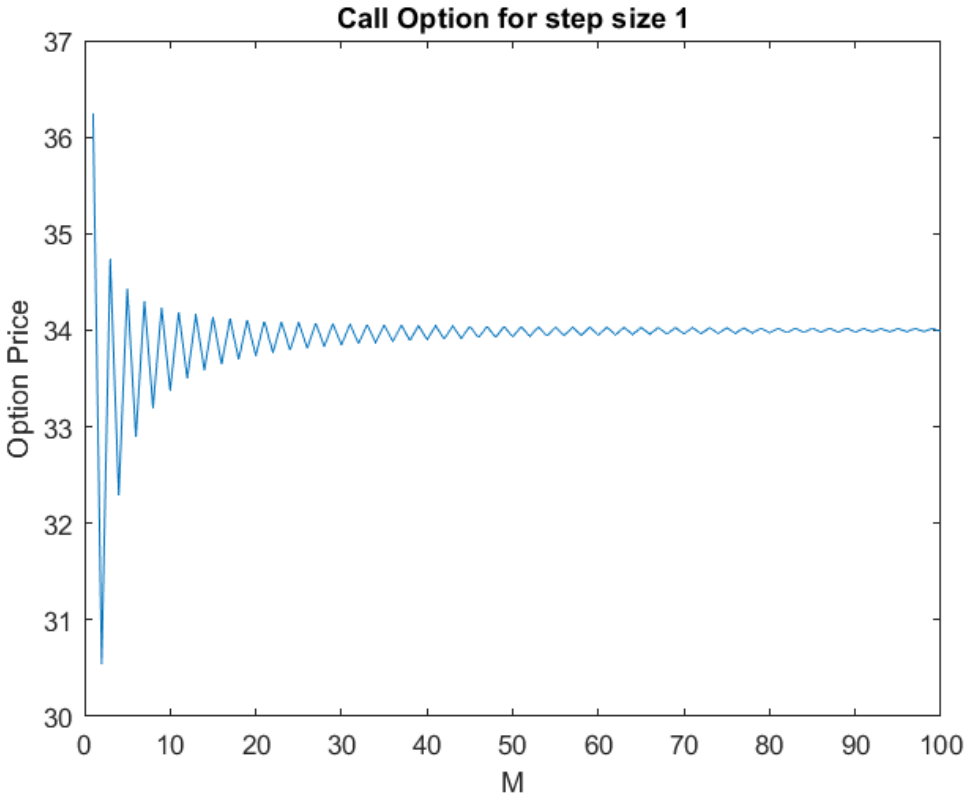
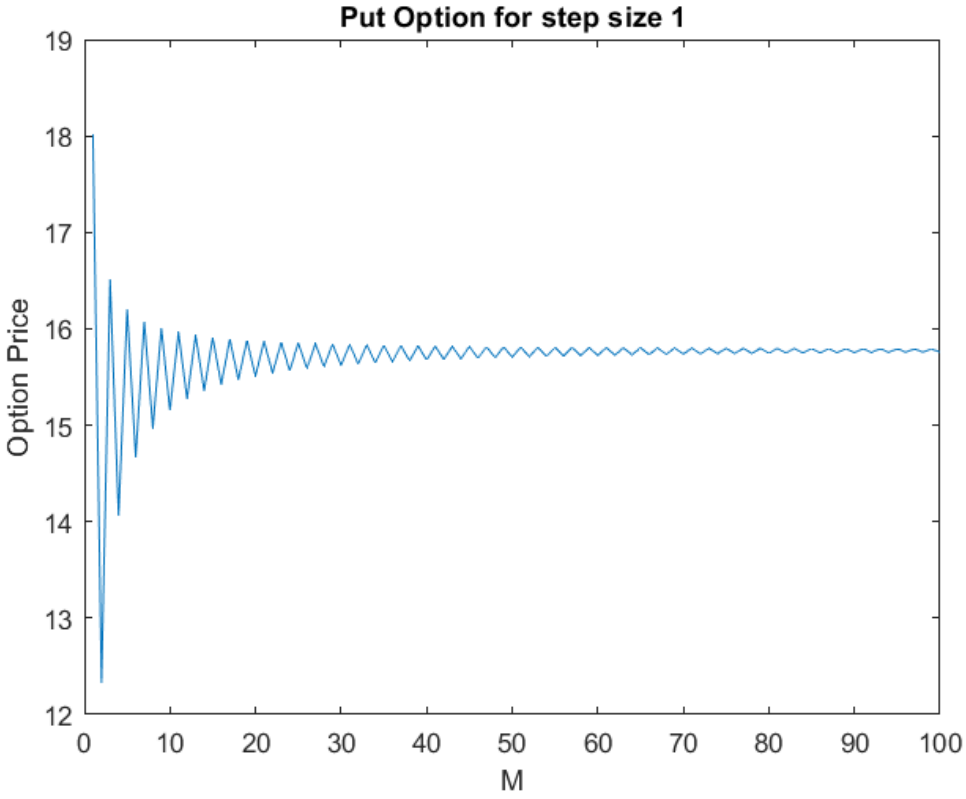
LAB 1

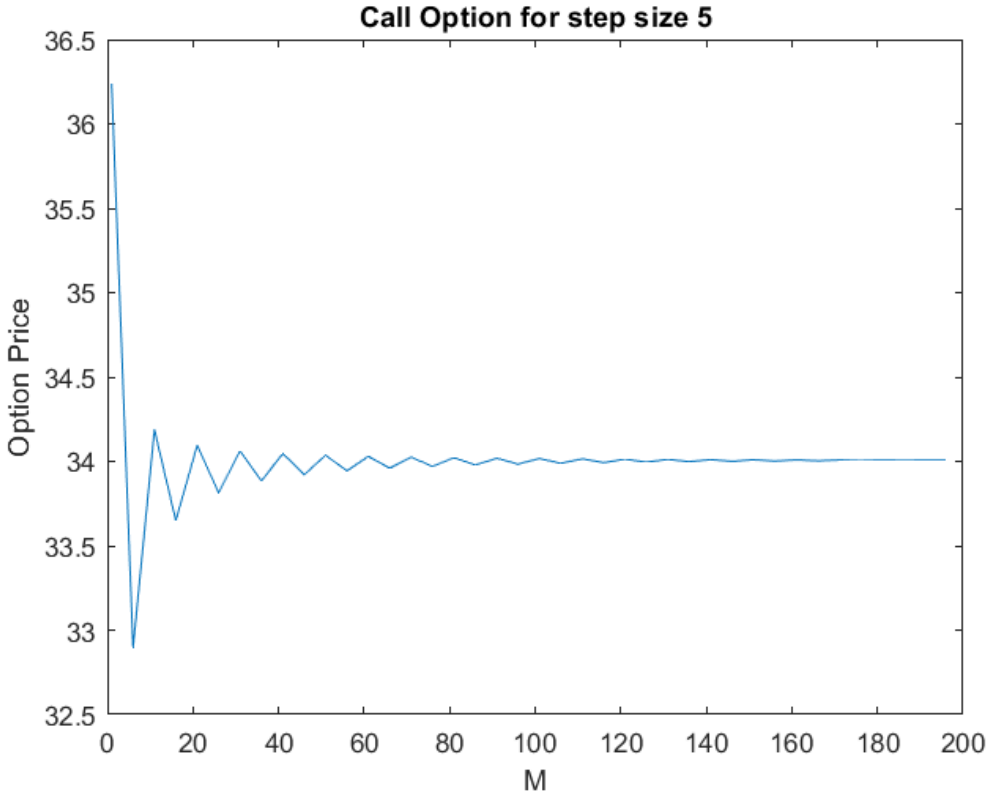
QUESTION 1: Initial Option Prices for given number of subintervals

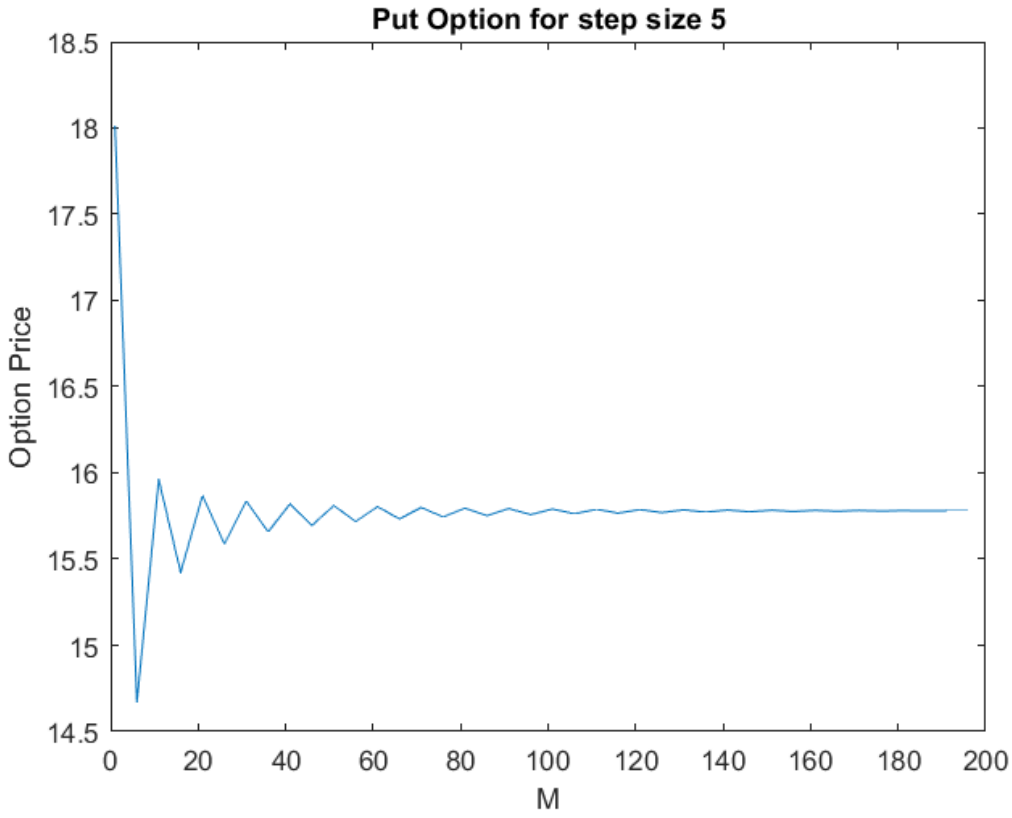
M	Call Price	Put Price
1	36.23538	18.00946
5	34.43114	16.20523
10	33.38147	15.15555
20	33.73636	15.51044
50	33.93163	15.70571
100	33.98633	15.76041
200	34.00715	15.78123
400	34.01291	15.78700

QUESTION 2: Initial Option Prices Vs number of subintervals plots




Put Option for step size 1
Option Price
M
19
18
17
16
15
14
13
12
0
10
20
30
40
50
60
70
80
90
100


Call Option for step size 5
Option Price
M
36.5
36
35.5
35
34.5
34
33.5
33
32.5
0
20
40
60
80
100
120
140
160
180
200



QUESTION 3: Option prices at given time values for the case M = 20:

t = 0.000

Stock Price	Call Price	Put Price
100.00000	33.85945	15.63353

t = 0.500

Stock Price	Call Price	Put Price
74.26726	15.09587	24.67282
100.25031	31.89325	15.48714
135.32377	59.95877	8.47920

t = 1.000

Stock Price	Call Price	Put Price
55.15626	5.15483	35.96530
74.45316	13.46972	24.98329
100.50125	29.80396	15.26943
135.66250	57.69999	8.00422
183.12522	100.66267	3.50417

t = 1.500

Stock Price	Call Price	Put Price
40.96304	1.12500	48.30495
55.29432	4.12140	36.97007
74.63952	11.76750	25.27096
100.75282	27.57320	14.96337
136.00208	55.29536	7.43626
183.58361	98.43887	2.99825
247.81195	160.61139	0.94243

t = 3.000

Stock Price	Call Price	Put Price
16.77971	0.00000	78.22822
22.65023	0.00000	72.35769
30.57462	0.00000	64.43331
41.27142	0.11833	53.85484
55.71059	1.23597	40.53331
75.20143	6.14852	25.95502
101.51131	19.72521	13.22183
137.02593	46.97619	4.95819
184.96566	91.19343	1.23570
249.67753	154.84170	0.17210
337.02941	242.03018	0.00871
454.94211	359.93418	0.00000
614.10762	519.09969	0.00000

t = 4.500

Stock Price	Call Price	Put Price
6.87348	0.00000	95.53406
9.27822	0.00000	93.12932
12.52429	0.00000	89.88325
16.90603	0.00000	85.50151
22.82075	0.00000	79.58679
30.80479	0.00000	71.60275
41.58212	0.00000	60.82542
56.12999	0.00000	46.27755
75.76756	0.00000	26.63998
102.27550	8.14917	8.28121
138.05749	36.25149	0.60155
186.35812	83.95058	0.00000
251.55715	149.14961	0.00000
339.56663	237.15909	0.00000
458.36701	355.95947	0.00000
618.73074	516.32320	0.00000
835.19914	732.79160	0.00000
1127.40091	1024.99337	0.00000
1521.83205	1419.42451	0.00000