

Nikhil.K-170123025

Dt: 06/01/20

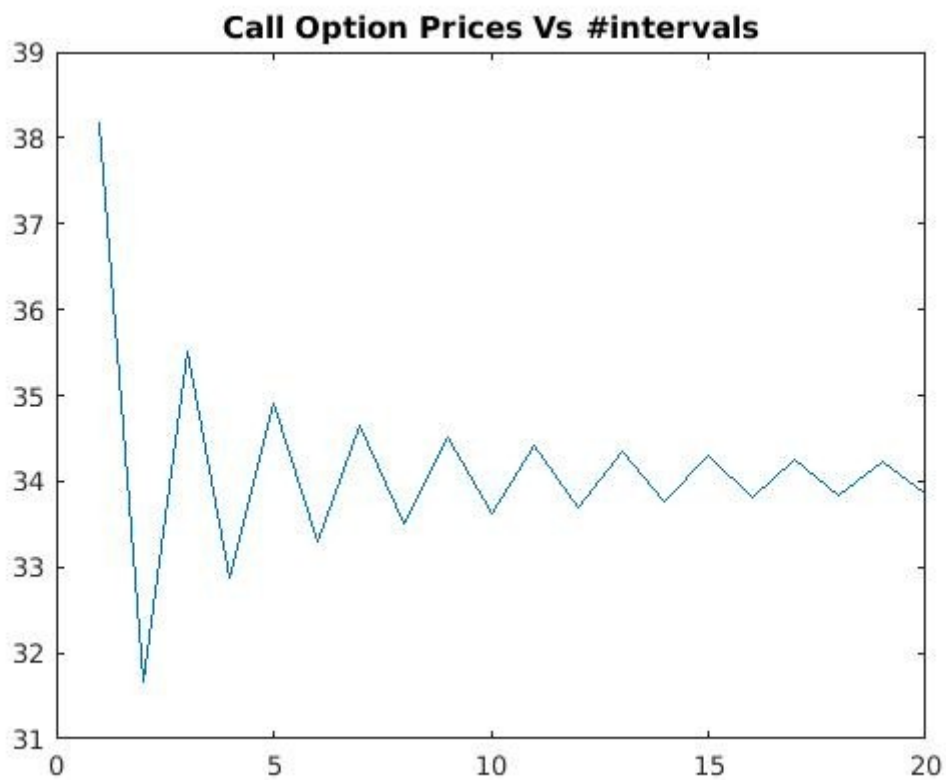
Question 1

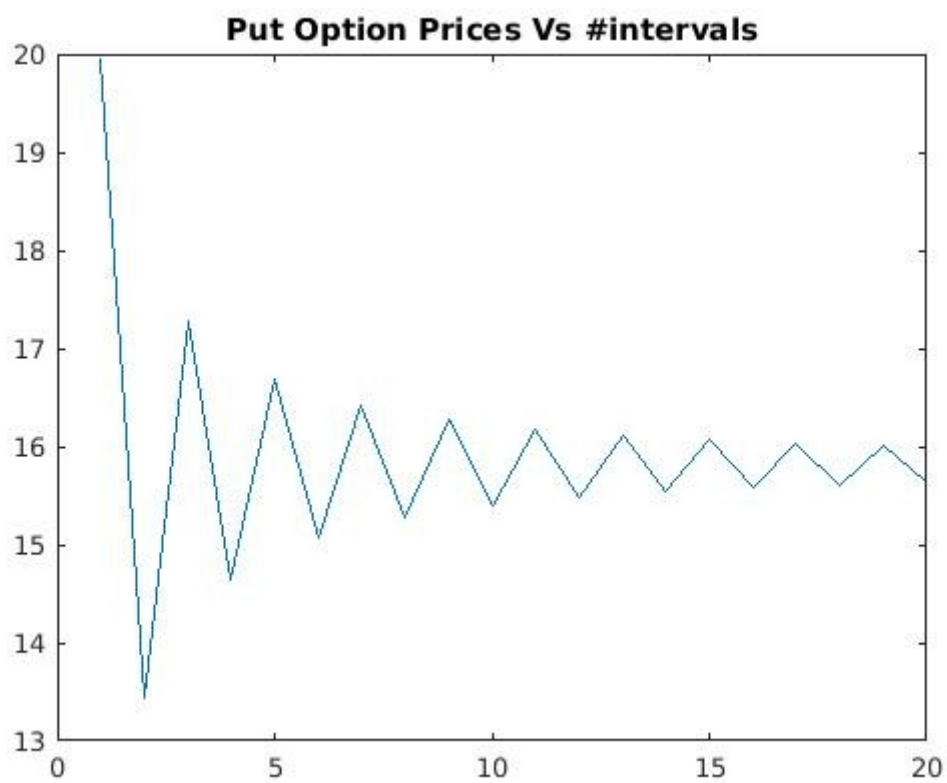
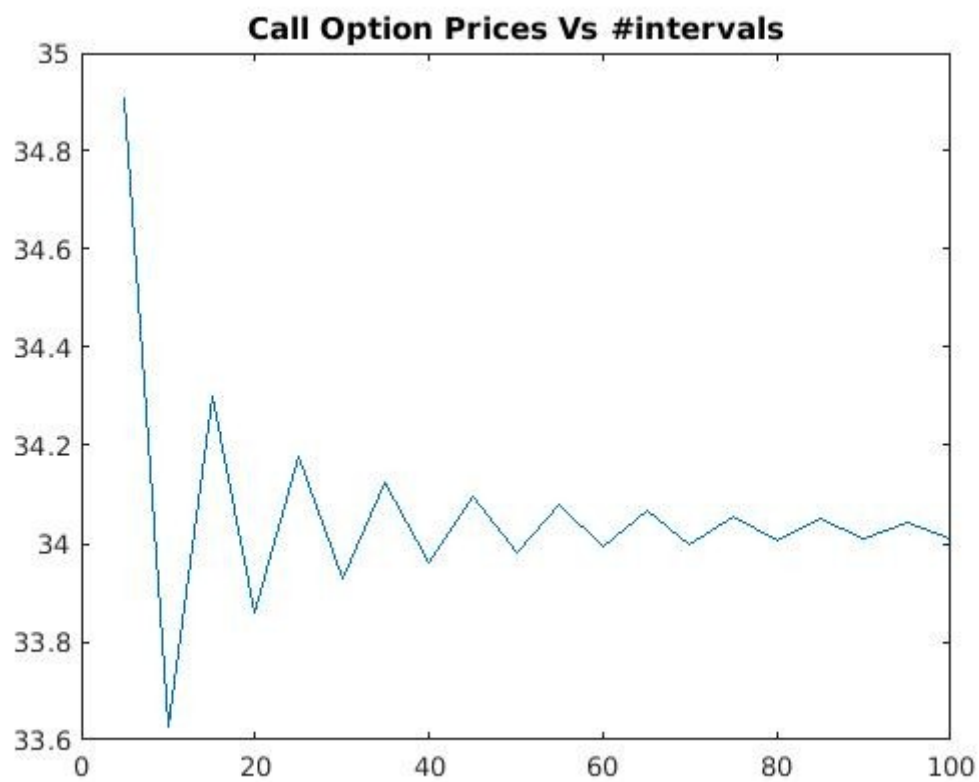
The prices of options tabulated for different number of time intervals:

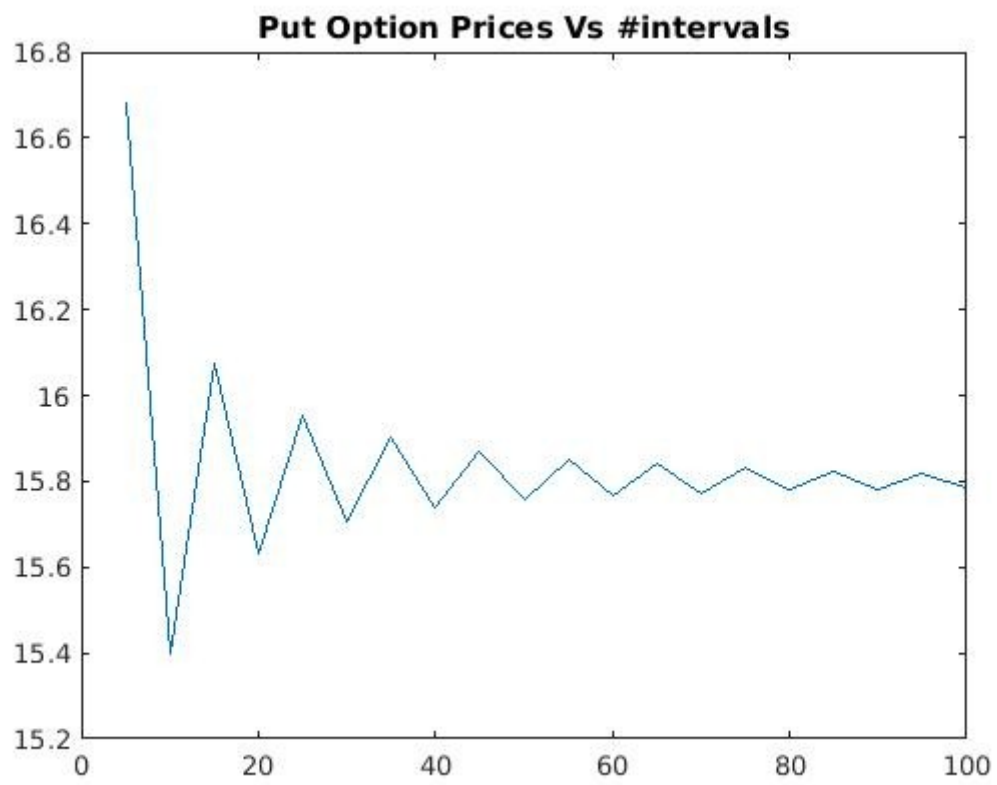
S.No	#intervals	Call Option Prices	Put Option Price
1	1	38.167635	19.941717
2	5	34.906533	16.680615
3	10	33.625022	15.399104
4	20	33.859449	15.633532
5	50	33.981184	15.755267
6	100	34.011161	15.785243
7	200	34.019579	15.793661
8	400	34.019132	15.793214

Question 2

The prices are converging with increasing in the number of time intervals
The plots are given by







Question 3

The prices of the option at different times for 20 intervals are given by

S.No	time	Call Option Price	Put Option Price
1	0.000000	33.859449	15.633532
2	0.250000	59.958769	8.479204
2	0.250000	31.893253	15.487143
2	0.250000	15.095873	24.672817
3	0.500000	100.662666	3.504174
3	0.500000	57.699995	8.004223
3	0.500000	29.803955	15.269432
3	0.500000	13.469716	24.983287
3	0.500000	5.154831	35.965304
4	0.750000	160.611388	0.942427
4	0.750000	98.438869	2.998250
4	0.750000	55.295356	7.436262
4	0.750000	27.573204	14.963372
4	0.750000	11.767497	25.270960
4	0.750000	4.121405	36.970072
4	0.750000	1.125003	48.304951
5	1.000000	519.099689	0.000000
5	1.000000	359.934184	0.000000
5	1.000000	242.030183	0.008705
5	1.000000	154.841699	0.172103
5	1.000000	91.193433	1.235702
5	1.000000	46.976188	4.958186
5	1.000000	19.725206	13.221829
5	1.000000	6.148520	25.955024
5	1.000000	1.235971	40.533314
5	1.000000	0.118330	53.854842
5	1.000000	0.000000	64.433311
5	1.000000	0.000000	72.357695
5	1.000000	0.000000	78.228223
6	1.250000	1419.424512	0.000000
6	1.250000	1024.993373	0.000000
6	1.250000	732.791598	0.000000
6	1.250000	516.323199	0.000000
6	1.250000	355.959465	0.000000
6	1.250000	237.159089	0.000000
6	1.250000	149.149606	0.000000
6	1.250000	83.950577	0.000000
6	1.250000	36.251494	0.601546
6	1.250000	8.149174	8.281211
6	1.250000	0.000000	26.639984
6	1.250000	0.000000	46.277554
6	1.250000	0.000000	60.825424
6	1.250000	0.000000	71.602751
6	1.250000	0.000000	79.586791
6	1.250000	0.000000	85.501514
6	1.250000	0.000000	89.883248
6	1.250000	0.000000	93.129316
6	1.250000	0.000000	95.534063