Financial Engineering Lab 1

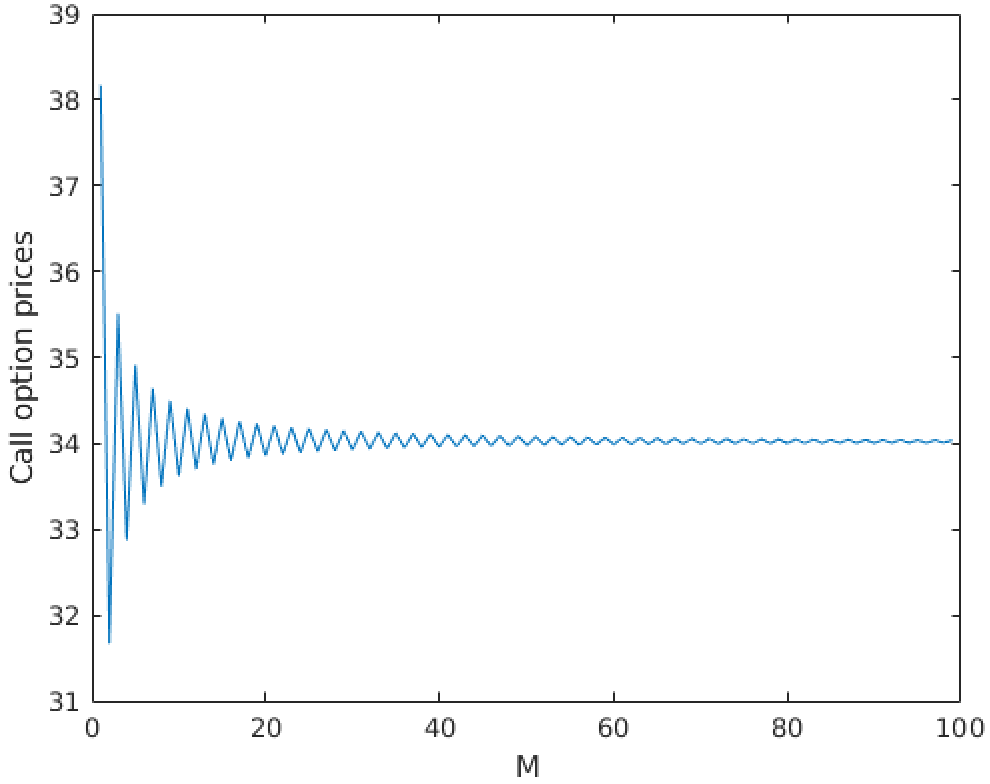
Question 1

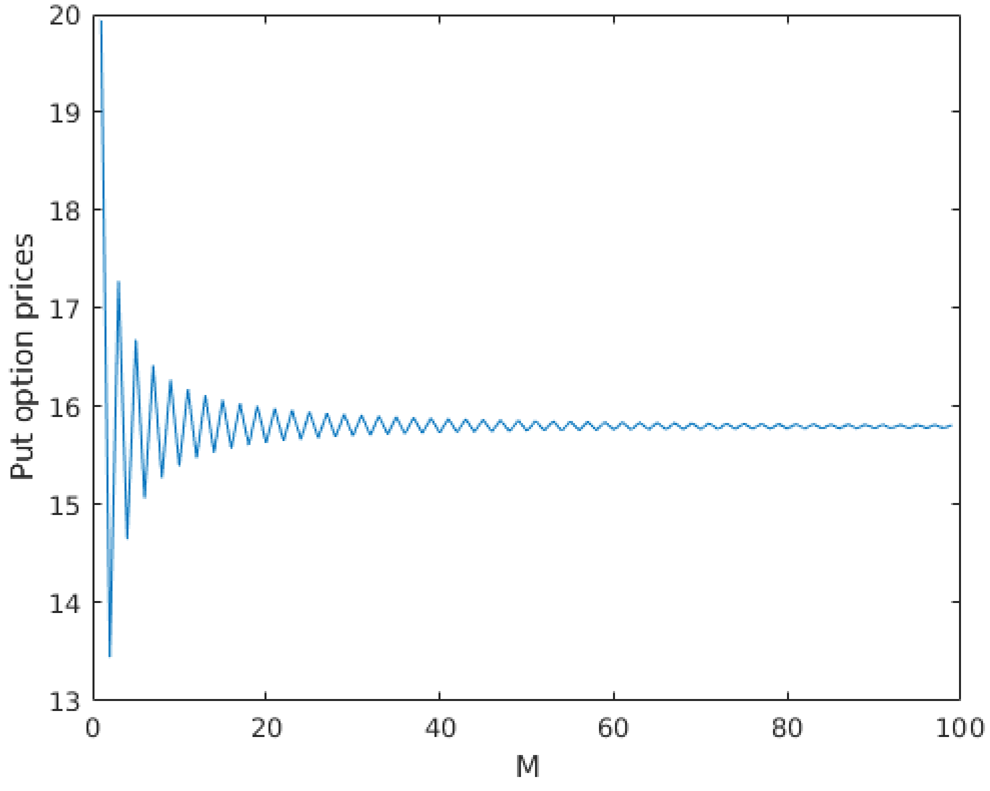
M	Call Option Price
1	38.167635
5	34.906533
10	33.625022
20	33.859449
50	33.981184
100	34.011161
200	34.019579
400	34.019132

M	Put Option Price
1	19.941717
5	16.680615
10	15.399104
20	15.633532
50	15.755267
100	15.785243
200	15.793661
400	15.793214

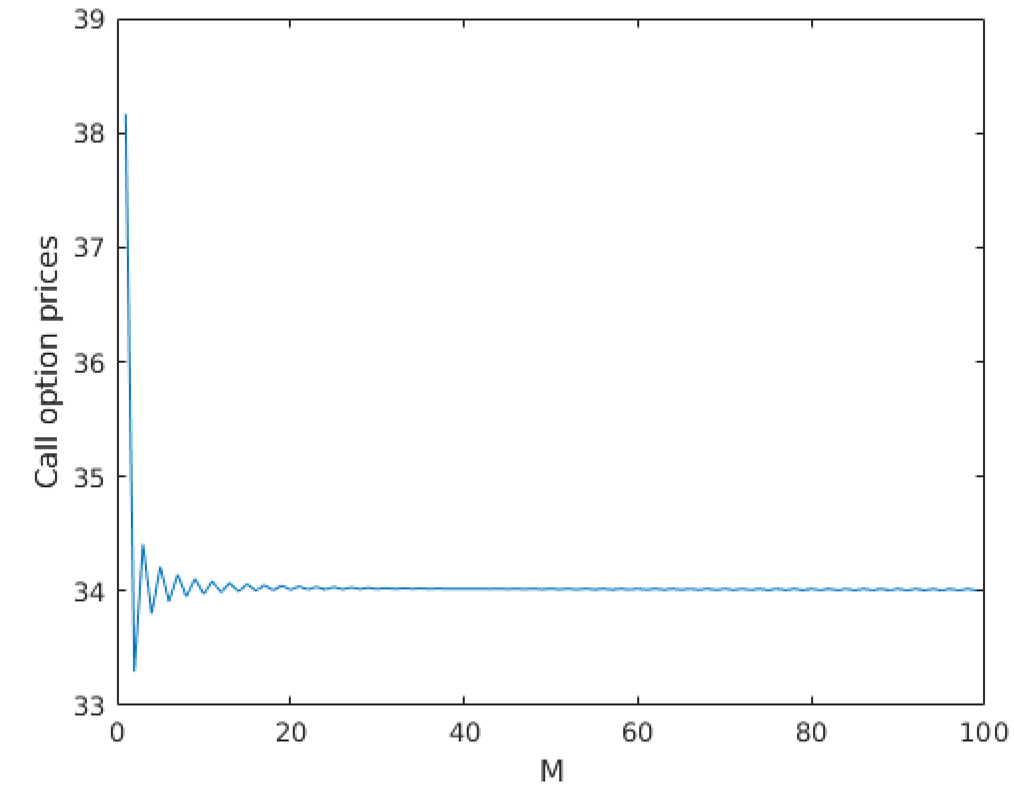
Question 2

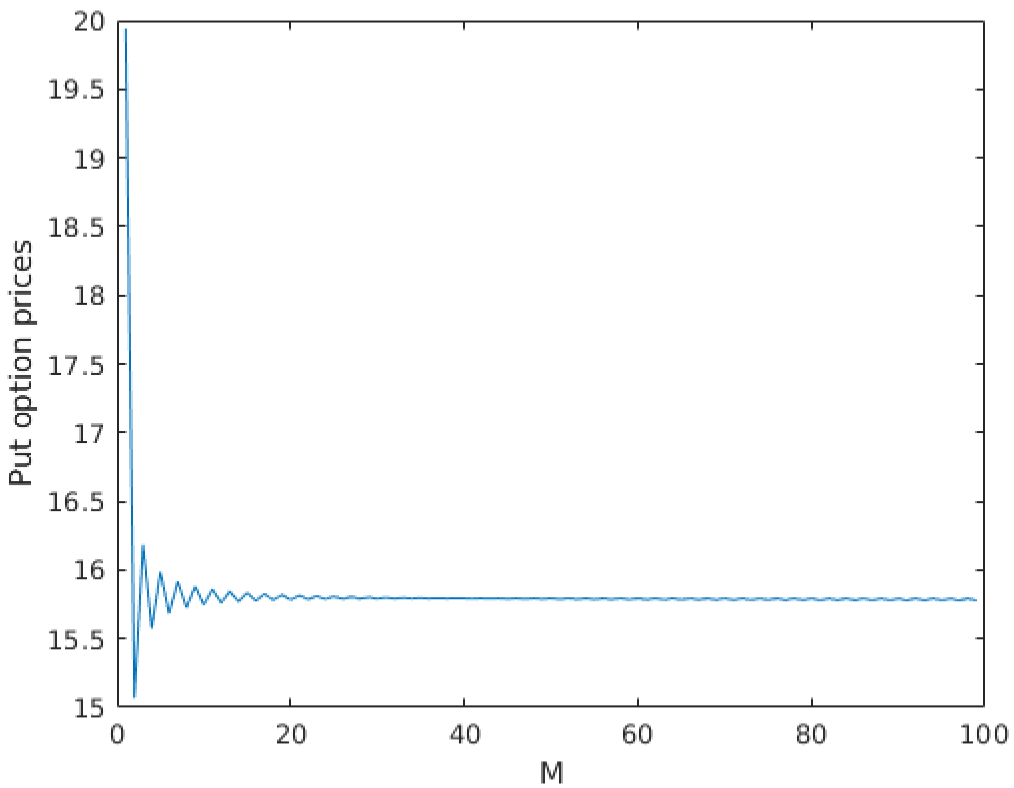
For Step Size 1





For Step Size 5





Question 3

At t=0.000000 call values are

```
 33.8594
```

At t=0.000000 put values are

```
   15.6335
```

At t=0.500000 call values are

```
   15.0959   31.8933   59.9588
```

At t=0.500000 put values are

```
   24.6728   15.4871    8.4792
```

At t=1.000000 call values are

```
    5.1548   13.4697   29.8040   57.7000  100.6627
```

At t=1.000000 put values are

```
   35.9653   24.9833   15.2694    8.0042    3.5042
```

At t=1.500000 call values are

```
    1.1250    4.1214   11.7675   27.5732   55.2954   98.4389  160.6114
```

At t=1.500000 put values are

```
   48.3050   36.9701   25.2710   14.9634    7.4363    2.9982    0.9424
```

At t=3.000000 call values are

```
         0         0         0    0.1183    1.2360    6.1485   19.7252   46.9762
91.1934  154.8417  242.0302  359.9342  519.0997
```

At t=3.000000 put values are

```
   78.2282   72.3577   64.4333   53.8548   40.5333   25.9550   13.2218    4.9582
1.2357    0.1721  0.0087         0         0
```

At t=4.500000 call values are

```
   1.0e+03 *

  Columns 1 through 10

         0         0         0         0         0         0         0         0
0    0.0081

  Columns 11 through 19

    0.0363    0.0840    0.1491    0.2372    0.3560    0.5163    0.7328    1.0250
1.4194
```

At t=4.500000 put values are

```
  Columns 1 through 10

   95.5341   93.1293   89.8832   85.5015   79.5868   71.6028   60.8254   46.2776
26.6400    8.2812

  Columns 11 through 19

    0.6015         0         0         0         0         0         0         0
0
```