**Batch 1**

Type : CALL

Time to expiration:0.250000

Volatility:0.300000

Risk Free interest:0.080000

Underlying stock price:60.000000

Stike Price:65.000000

Cost of carry:0.080000

(Call Price:2.133368

Type : PUT

Time to expiration:0.250000

Volatility:0.300000

Risk Free interest:0.080000

Underlying stock price:60.000000

Stike Price:65.000000

Cost of carry:0.080000

Put Price:5.846282

Call Parity price: 5.84628

Put Parity Price: 2.13337

Satisfy parity?: true

(CALL)(Array\_stockPrice)

7.792e-36 1.88964e-32 1.64204e-29 6.19303e-27 1.17207e-24 1.24529e-22 8.11387e-21

3.47944e-19 1.03991e-17 2.27042e-16 3.76503e-15 4.89964e-14 5.1436e-13 4.45934e-12

3.25772e-11 2.0405e-10 1.11246e-09 5.34891e-09 2.29454e-08 8.8713e-08 3.11926e-07

1.00545e-06 2.99241e-06 8.27565e-06 2.13896e-05 5.19359e-05 0.000119024 0.000258548

0.000534403 0.00105474 0.00199417 0.00362244 0.00633924 0.010714 0.0175282

0.0278174 0.0429083 0.0644467 0.0944125 0.135117 0.189181

(CALL)(Array\_InterestRate)

2.12273 2.11082 2.09898 2.08721 2.0755 2.06386 2.05228

2.04077 2.02932 2.01794 2.00662 1.99537 1.98417 1.97304

1.96198 1.95097 1.94003 1.92915 1.91832 1.90756 1.89686

1.88622 1.87564 1.86512 1.85466 1.84426 1.83391 1.82363

1.8134 1.80323 1.79311 1.78305 1.77305 1.76311 1.75322

1.74338 1.7336 1.72388 1.71421 1.70459 1.69503

(CALL)(Array\_Volatility)

0.173097 0.327441 0.512391 0.718513 0.939559 1.17139 1.41121

1.65707 1.90759 2.16177 2.41884 2.67826 2.93956 3.20242

3.46655 3.73173 3.99777 4.26454 4.5319 4.79974 5.06798

5.33653 5.60533 5.87433 6.14346 6.41268 6.68195 6.95123

7.2205 7.48971 7.75884 8.02787 8.29676 8.56551 8.83408

9.10246 9.37063 9.63858 9.90628 10.1737 10.4409

(PUT)(Array\_stockPrice)

53.7129 52.7129 51.7129 50.7129 49.7129 48.7129 47.7129

46.7129 45.7129 44.7129 43.7129 42.7129 41.7129 40.7129

39.7129 38.7129 37.7129 36.7129 35.7129 34.7129 33.7129

32.7129 31.7129 30.7129 29.7129 28.713 27.713 26.7132

25.7134 24.714 23.7149 22.7165 21.7193 20.7236 19.7304

18.7407 17.7558 16.7774 15.8073 14.848 13.9021

(PUT)(Array\_InterestRate)

5.81712 5.78449 5.75205 5.71978 5.6877 5.6558 5.62407

5.59253 5.56116 5.52996 5.49894 5.4681 5.43743 5.40693

5.3766 5.34644 5.31645 5.28663 5.25698 5.22749 5.19817

5.16901 5.14001 5.11118 5.08251 5.054 5.02566 4.99747

4.96943 4.94156 4.91384 4.88628 4.85887 4.83162 4.80451

4.77756 4.75077 4.72412 4.69762 4.67127 4.64507

(PUT)(Array\_Volatility)

3.88601 4.04035 4.22531 4.43143 4.65247 4.8843 5.12412

5.36998 5.6205 5.87468 6.13176 6.39117 6.65248 6.91533

7.17946 7.44464 7.71069 7.97745 8.24481 8.51265 8.78089

9.04944 9.31825 9.58724 9.85637 10.1256 10.3949 10.6641

10.9334 11.2026 11.4718 11.7408 12.0097 12.2784 12.547

12.8154 13.0835 13.3515 13.6192 13.8866 14.1538

**Batch 2**

Type : CALL

Time to expiration:1.000000

Volatility:0.200000

Risk Free interest:0.000000

Underlying stock price:100.000000

Stike Price:100.000000

Cost of carry:0.000000

(Call Price:7.965567

Type : PUT

Time to expiration:1.000000

Volatility:0.200000

Risk Free interest:0.000000

Underlying stock price:100.000000

Stike Price:100.000000

Cost of carry:0.000000

Put Price:7.965567

Call Parity price: 7.96557

Put Parity Price: 7.96557

Satisfy parity?: true

(CALL)(Array\_stockPrice)

3.05867e-31 7.50875e-29 9.39062e-27 6.76817e-25 3.08735e-23 9.58525e-22 2.14514e-20

3.62362e-19 4.79653e-18 5.13087e-17 4.55058e-16 3.41899e-15 2.21616e-14 1.25872e-13

6.34869e-13 2.87668e-12 1.18282e-11 4.45231e-11 1.54615e-10 4.98755e-10 1.50356e-09

4.25893e-09 1.13899e-08 2.8884e-08 6.97279e-08 1.60803e-07 3.5539e-07 7.54907e-07

1.54526e-06 3.05545e-06 5.84877e-06 1.08604e-05 1.95985e-05 3.44297e-05 5.89738e-05

9.8635e-05 0.000161299 0.000258226 0.000405172 0.000623757 0.000943109

(CALL)(Array\_InterestRate)

7.20754 7.04718 6.89039 6.73709 6.5872 6.44064 6.29735

6.15724 6.02025 5.8863 5.75534 5.62729 5.50209 5.37968

5.25999 5.14296 5.02853 4.91665 4.80726 4.70031 4.59573

4.49348 4.39351 4.29576 4.20018 4.10673 4.01536 3.92603

3.83868 3.75327 3.66977 3.58812 3.50829 3.43023 3.35391

3.27929 3.20633 3.135 3.06525 2.99705 2.93037

(CALL)(Array\_Volatility)

3.98776 4.88399 5.7796 6.67448 7.56852 8.4616 9.35362

10.2445 11.134 12.0221 12.9088 13.7938 14.6771 15.5586

16.4381 17.3155 18.1908 19.0639 19.9345 20.8027 21.6684

22.5313 23.3915 24.2488 25.1032 25.9544 26.8025 27.6474

28.4889 29.3269 30.1614 30.9923 31.8194 32.6427 33.4622

34.2777 35.0891 35.8963 36.6994 37.4981 38.2925

(PUT)(Array\_stockPrice)

90 89 88 87 86 85 84

83 82 81 80 79 78 77

76 75 74 73 72 71 70

69 68 67 66 65 64 63

62 61 60 59 58 57 56.0001

55.0001 54.0002 53.0003 52.0004 51.0006 50.0009

(PUT)(Array\_InterestRate)

7.20754 7.04718 6.89039 6.73709 6.5872 6.44064 6.29735

6.15724 6.02025 5.8863 5.75534 5.62729 5.50209 5.37968

5.25999 5.14296 5.02853 4.91665 4.80726 4.70031 4.59573

4.49348 4.39351 4.29576 4.20018 4.10673 4.01536 3.92603

3.83868 3.75327 3.66977 3.58812 3.50829 3.43023 3.35391

3.27929 3.20633 3.135 3.06525 2.99705 2.93037

(PUT)(Array\_Volatility)

3.98776 4.88399 5.7796 6.67448 7.56852 8.4616 9.35362

10.2445 11.134 12.0221 12.9088 13.7938 14.6771 15.5586

16.4381 17.3155 18.1908 19.0639 19.9345 20.8027 21.6684

22.5313 23.3915 24.2488 25.1032 25.9544 26.8025 27.6474

28.4889 29.3269 30.1614 30.9923 31.8194 32.6427 33.4622

34.2777 35.0891 35.8963 36.6994 37.4981 38.2925

**Batch 3**

Type : CALL

Time to expiration:1.000000

Volatility:0.500000

Risk Free interest:0.120000

Underlying stock price:5.000000

Stike Price:10.000000

Cost of carry:0.120000

(Call Price:0.204058

Type : PUT

Time to expiration:1.000000

Volatility:0.500000

Risk Free interest:0.120000

Underlying stock price:5.000000

Stike Price:10.000000

Cost of carry:0.120000

Put Price:4.073262

Call Parity price: 4.07326

Put Parity Price: 0.204058

Satisfy parity?: true

(CALL)(Array\_stockPrice)

2.48011 3.20115 3.97989 4.80493 5.6668 6.55778 7.47169

8.40362 9.34971 10.3069 11.2729 12.2458 13.2241 14.2067

15.1927 16.1815 17.1724 18.165 19.159 20.1541 21.1501

22.1468 23.1442 24.142 25.1401 26.1386 27.1374 28.1363

29.1355 30.1347 31.1341 32.1336 33.1332 34.1329 35.1326

36.1323 37.1321 38.1319 39.1317 40.1316 41.1315

(CALL)(Array\_InterestRate)

0.20818 0.203548 0.19902 0.194592 0.190262 0.186029 0.18189

0.177843 0.173887 0.170018 0.166235 0.162537 0.15892 0.155385

0.151928 0.148547 0.145242 0.142011 0.138851 0.135762 0.132742

0.129788 0.126901 0.124077 0.121317 0.118617 0.115978 0.113398

0.110875 0.108408 0.105996 0.103638 0.101332 0.0990776 0.0968733

0.094718 0.0926106 0.0905501 0.0885355 0.0865657 0.0846397

(CALL)(Array\_Volatility)

5.46951e-10 2.32214e-07 8.47831e-06 8.85216e-05 0.000454212 0.00150691 0.00376216

0.00773252 0.0138398 0.0223775 0.0335109 0.0472971 0.0637102 0.0826665

0.104044 0.1277 0.153478 0.181221 0.210774 0.241986 0.274714

0.308826 0.344196 0.380707 0.418254 0.456737 0.496064 0.536153

0.576925 0.61831 0.660241 0.702659 0.745507 0.788734 0.832292

0.876137 0.920227 0.964525 1.00899 1.0536 1.09832

(PUT)(Array\_stockPrice)

1.34932 1.07036 0.849091 0.674134 0.536003 0.426982 0.340889

0.272821 0.218913 0.176132 0.142104 0.114972 0.0932814 0.0758952

0.0619213 0.050659 0.0415573 0.0341815 0.0281882 0.0233052 0.0193162

0.0160492 0.0133667 0.0111585 0.00933635 0.00782914 0.0065795 0.00554104

0.00467613 0.00395419 0.00335029 0.00284408 0.00241887 0.00206101 0.00175922

0.00150425 0.00128842 0.00110539 0.000949906 0.000817588 0.000704793

(PUT)(Array\_InterestRate)

4.15555 4.06309 3.97269 3.88431 3.79788 3.71339 3.63077

3.54999 3.47101 3.39378 3.31827 3.24444 3.17226 3.10168

3.03267 2.9652 2.89923 2.83472 2.77165 2.70999 2.64969

2.59074 2.5331 2.47674 2.42164 2.36776 2.31508 2.26357

2.21321 2.16397 2.11582 2.06875 2.02272 1.97772 1.93372

1.89069 1.84863 1.8075 1.76728 1.72796 1.68952

(PUT)(Array\_Volatility)

3.8692 3.8692 3.86921 3.86929 3.86966 3.87071 3.87297

3.87694 3.88304 3.89158 3.90272 3.9165 3.93291 3.95187

3.97325 3.9969 4.02268 4.05043 4.07998 4.11119 4.14392

4.17803 4.2134 4.24991 4.28746 4.32594 4.36527 4.40536

4.44613 4.48751 4.52945 4.57186 4.61471 4.65794 4.7015

4.74534 4.78943 4.83373 4.8782 4.92281 4.96752

**Batch 4**

Type : CALL

Time to expiration:30.000000

Volatility:0.300000

Risk Free interest:0.080000

Underlying stock price:100.000000

Stike Price:100.000000

Cost of carry:0.080000

(Call Price:92.175704

Type : PUT

Time to expiration:30.000000

Volatility:0.300000

Risk Free interest:0.080000

Underlying stock price:100.000000

Stike Price:100.000000

Cost of carry:0.080000

Put Price:1.247499

Call Parity price: 1.2475

Put Parity Price: 92.1757

Satisfy parity?: true

(CALL)(Array\_stockPrice)

6.08558 6.90422 7.73711 8.58239 9.43856 10.3044 11.1788

12.0608 12.9499 13.8451 14.7461 15.6523 16.5633 17.4786

18.3979 19.321 20.2476 21.1773 22.11 23.0456 23.9837

24.9242 25.8671 26.8121 27.7591 28.708 29.6587 30.6111

31.5652 32.5207 33.4777 34.4361 35.3958 36.3567 37.3188

38.282 39.2463 40.2116 41.1779 42.1452 43.1133

(CALL)(Array\_InterestRate)

50.5871 25.7567 13.1142 6.67719 3.39973 1.731 0.881347

0.448744 0.228481 0.116332 0.0592314 0.030158 0.0153552 0.00781818

0.00398068 0.00202679 0.00103195 0.000525425 0.000267523 0.000136211 6.93528e-05

3.53114e-05 1.7979e-05 9.15415e-06 4.66089e-06 2.37312e-06 1.20829e-06 6.15209e-07

3.13238e-07 1.59487e-07 8.12038e-08 4.13455e-08 2.10513e-08 1.07184e-08 5.45735e-09

2.77864e-09 1.41476e-09 7.20336e-10 3.66764e-10 1.8674e-10 9.50799e-11

(CALL)(Array\_Volatility)

90.9282 90.929 90.9361 90.9634 91.0291 91.1483 91.3287

91.5707 91.8693 92.2164 92.602 93.0162 93.4493 93.8925

94.3381 94.7796 95.2114 95.6292 96.0295 96.4096 96.7678

97.1028 97.4141 97.7015 97.9653 98.206 98.4245 98.6218

98.7991 98.9575 99.0985 99.2234 99.3335 99.4301 99.5145

99.588 99.6516 99.7065 99.7537 99.794 99.8284

(PUT)(Array\_stockPrice)

5.15738 4.97602 4.8089 4.65419 4.51036 4.37617 4.25056

4.13264 4.02165 3.91694 3.81792 3.72411 3.63506 3.55038

3.46974 3.39282 3.31936 3.24911 3.18184 3.11735 3.05547

2.99603 2.93888 2.88387 2.83088 2.7798 2.73052 2.68294

2.63697 2.59252 2.54952 2.50789 2.46756 2.42848 2.39057

2.3538 2.3181 2.28342 2.24973 2.21698 2.18512

(PUT)(Array\_InterestRate)

0.684642 0.34859 0.177487 0.0903685 0.0460117 0.0234272 0.0119281

0.00607326 0.00309224 0.00157443 0.000801633 0.000408157 0.000207816 0.000105811

5.38742e-05 2.74304e-05 1.39664e-05 7.11106e-06 3.62064e-06 1.84347e-06 9.38616e-07

4.77902e-07 2.43327e-07 1.23892e-07 6.30802e-08 3.21177e-08 1.63529e-08 8.3262e-09

4.23934e-09 2.15849e-09 1.09901e-09 5.59566e-10 2.84907e-10 1.45062e-10 7.38593e-11

3.76059e-11 1.91473e-11 9.74897e-12 4.96375e-12 2.52733e-12 1.2868e-12

(PUT)(Array\_Volatility)

1.96045e-05 0.000825262 0.00790005 0.0351878 0.100935 0.220143 0.40053

0.642524 0.941143 1.28815 1.67378 2.08796 2.52105 2.96428

3.40993 3.8514 4.28323 4.701 5.10125 5.48138 5.83956

6.1746 6.48589 6.77331 7.03709 7.27782 7.49632 7.69361

7.87086 8.02932 8.17032 8.29519 8.40528 8.5019 8.58633

8.65979 8.72342 8.77831 8.82546 8.8658 8.90016

Type : CALL

Time to expiration:0.500000

Volatility:0.360000

Risk Free interest:0.100000

Underlying stock price:105.000000

Stike Price:100.000000

Cost of carry:0.000000

(Call Price:12.432845

Call Delta: 0.594629

Put Delta: -0.356601

(CALL)(Delta\_CALL\_Stockprice

2.25551e-19 6.18174e-18 1.12536e-16 1.46673e-15 1.44882e-14 1.1336e-13 7.27491e-13

3.93787e-12 1.83921e-11 7.55191e-11 2.76878e-10 9.18317e-10 2.78591e-09 7.80377e-09

2.0348e-08 4.97346e-08 1.14647e-07 2.50577e-07 5.21714e-07 1.03903e-06 1.98667e-06

3.65877e-06 6.5092e-06 1.1216e-05 1.87624e-05 3.05351e-05 4.84406e-05 7.50367e-05

0.00011368 0.000168682 0.000245471 0.000350761 0.000492699 0.000681019 0.000927157

0.00124435 0.00164771 0.00215423 0.00278276 0.00355398 0.00449025

(CALL)(Gamma\_CALL\_Stockprice

7.99889e-19 1.91133e-17 3.06528e-16 3.5504e-15 3.13999e-14 2.21388e-13 1.28747e-12

6.34636e-12 2.71108e-11 1.02212e-10 3.4529e-10 1.05853e-09 2.97663e-09 7.74877e-09

1.88211e-08 4.29453e-08 9.26003e-08 1.89662e-07 3.70674e-07 6.94045e-07 1.24942e-06

2.16936e-06 3.64316e-06 5.93265e-06 9.38929e-06 1.44717e-05 2.1763e-05 3.19861e-05

4.60161e-05 6.48894e-05 8.98063e-05 0.000122128 0.000163369 0.000215175 0.000279307

0.000357603 0.000451947 0.000564227 0.000696287 0.000849884 0.00102664

(PUT)(Delta\_PUT\_Stockprice

-0.951229 -0.951229 -0.951229 -0.951229 -0.951229 -0.951229 -0.951229

-0.951229 -0.951229 -0.951229 -0.951229 -0.951229 -0.951229 -0.951229

-0.951229 -0.951229 -0.951229 -0.951229 -0.951229 -0.951228 -0.951227

-0.951226 -0.951223 -0.951218 -0.951211 -0.951199 -0.951181 -0.951154

-0.951116 -0.951061 -0.950984 -0.950879 -0.950737 -0.950548 -0.950302

-0.949985 -0.949582 -0.949075 -0.948447 -0.947675 -0.946739

(PUT)(Gamma\_PUT\_Stockprice

7.99889e-19 1.91133e-17 3.06528e-16 3.5504e-15 3.13999e-14 2.21388e-13 1.28747e-12

6.34636e-12 2.71108e-11 1.02212e-10 3.4529e-10 1.05853e-09 2.97663e-09 7.74877e-09

1.88211e-08 4.29453e-08 9.26003e-08 1.89662e-07 3.70674e-07 6.94045e-07 1.24942e-06

2.16936e-06 3.64316e-06 5.93265e-06 9.38929e-06 1.44717e-05 2.1763e-05 3.19861e-05

4.60161e-05 6.48894e-05 8.98063e-05 0.000122128 0.000163369 0.000215175 0.000279307

0.000357603 0.000451947 0.000564227 0.000696287 0.000849884 0.00102664

(OptionGreeks part A)

S = 105, h = 0.001, Gamma of Call = 2.48669e+07

S = 105, h = 0.001,Delta of Put = -0.356601

S = 105, h = 0.01, Gamma of Call = 248776

S = 105, h = 0.01,Delta of Put = -0.356601

S = 105, h = 0.1, Gamma of Call = 2498.46

S = 105, h = 0.1,Delta of Put = -0.356601

S = 10, h = 0.001, Gamma of Call = 1.2279e-13

S = 10, h = 0.001, Delta of Put = -0.951229

S = 10, h = 0.01, Gamma of Call = 1.26851e-15

S = 10, h = 0.01, Delta of Put = -0.951229

S = 10, h = 0.1, Gamma of Call = 1.68361e-17

S = 10, h = 0.1, Delta of Put = -0.951229

S = 11, h = 0.001, Gamma of Call = 3.85022e-12

S = 11, h = 0.001, Delta of Put = -0.951229

S = 11, h = 0.01, Gamma of Call = 3.96151e-14

S = 11, h = 0.01, Delta of Put = -0.951229

S = 11, h = 0.1, Gamma of Call = 5.09314e-16

S = 11, h = 0.1, Delta of Put = -0.951229

S = 12, h = 0.001, Gamma of Call = 7.93681e-11

S = 12, h = 0.001, Delta of Put = -0.951229

S = 12, h = 0.01, Gamma of Call = 8.1394e-13

S = 12, h = 0.01, Delta of Put = -0.951229

S = 12, h = 0.1, Gamma of Call = 1.01917e-14

S = 12, h = 0.1, Delta of Put = -0.951229

S = 13, h = 0.001, Gamma of Call = 1.16121e-09

S = 13, h = 0.001, Delta of Put = -0.951229

S = 13, h = 0.01, Gamma of Call = 1.18761e-11

S = 13, h = 0.01, Delta of Put = -0.951229

S = 13, h = 0.1, Gamma of Call = 1.45436e-13

S = 13, h = 0.1, Delta of Put = -0.951229

S = 14, h = 0.001, Gamma of Call = 1.27808e-08

S = 14, h = 0.001, Delta of Put = -0.951229

S = 14, h = 0.01, Gamma of Call = 1.30416e-10

S = 14, h = 0.01, Delta of Put = -0.951229

S = 14, h = 0.1, Gamma of Call = 1.5671e-12

S = 14, h = 0.1, Delta of Put = -0.951229

S = 15, h = 0.001, Gamma of Call = 1.10713e-07

S = 15, h = 0.001, Delta of Put = -0.951229

S = 15, h = 0.01, Gamma of Call = 1.12754e-09

S = 15, h = 0.01, Delta of Put = -0.951229

S = 15, h = 0.1, Gamma of Call = 1.33295e-11

S = 15, h = 0.1, Delta of Put = -0.951229

S = 16, h = 0.001, Gamma of Call = 7.82228e-07

S = 16, h = 0.001, Delta of Put = -0.951229

S = 16, h = 0.01, Gamma of Call = 7.95323e-09

S = 16, h = 0.01, Delta of Put = -0.951229

S = 16, h = 0.1, Gamma of Call = 9.2699e-11

S = 16, h = 0.1, Delta of Put = -0.951229

S = 17, h = 0.001, Gamma of Call = 4.63866e-06

S = 17, h = 0.001, Delta of Put = -0.951229

S = 17, h = 0.01, Gamma of Call = 4.70954e-08

S = 17, h = 0.01, Delta of Put = -0.951229

S = 17, h = 0.1, Gamma of Call = 5.42157e-10

S = 17, h = 0.1, Delta of Put = -0.951229

S = 18, h = 0.001, Gamma of Call = 2.36313e-05

S = 18, h = 0.001, Delta of Put = -0.951229

S = 18, h = 0.01, Gamma of Call = 2.39624e-07

S = 18, h = 0.01, Delta of Put = -0.951229

S = 18, h = 0.1, Gamma of Call = 2.72855e-09

S = 18, h = 0.1, Delta of Put = -0.951229

S = 19, h = 0.001, Gamma of Call = 0.000105424

S = 19, h = 0.001, Delta of Put = -0.951229

S = 19, h = 0.01, Gamma of Call = 1.06784e-06

S = 19, h = 0.01, Delta of Put = -0.951229

S = 19, h = 0.1, Gamma of Call = 1.20421e-08

S = 19, h = 0.1, Delta of Put = -0.951229

S = 20, h = 0.001, Gamma of Call = 0.000418483

S = 20, h = 0.001, Delta of Put = -0.951229

S = 20, h = 0.01, Gamma of Call = 4.23467e-06

S = 20, h = 0.01, Delta of Put = -0.951229

S = 20, h = 0.1, Gamma of Call = 4.73439e-08

S = 20, h = 0.1, Delta of Put = -0.951229

S = 21, h = 0.001, Gamma of Call = 0.00149799

S = 21, h = 0.001, Delta of Put = -0.951229

S = 21, h = 0.01, Gamma of Call = 1.51452e-05

S = 21, h = 0.01, Delta of Put = -0.951229

S = 21, h = 0.1, Gamma of Call = 1.6802e-07

S = 21, h = 0.1, Delta of Put = -0.951229

S = 22, h = 0.001, Gamma of Call = 0.0048906

S = 22, h = 0.001, Delta of Put = -0.951229

S = 22, h = 0.01, Gamma of Call = 4.94075e-05

S = 22, h = 0.01, Delta of Put = -0.951229

S = 22, h = 0.1, Gamma of Call = 5.4432e-07

S = 22, h = 0.1, Delta of Put = -0.951229

S = 23, h = 0.001, Gamma of Call = 0.0147041

S = 23, h = 0.001, Delta of Put = -0.951229

S = 23, h = 0.01, Gamma of Call = 0.000148446

S = 23, h = 0.01, Delta of Put = -0.951229

S = 23, h = 0.1, Gamma of Call = 1.62516e-06

S = 23, h = 0.1, Delta of Put = -0.951229

S = 24, h = 0.001, Gamma of Call = 0.0410536

S = 24, h = 0.001, Delta of Put = -0.951229

S = 24, h = 0.01, Gamma of Call = 0.000414199

S = 24, h = 0.01, Delta of Put = -0.951229

S = 24, h = 0.1, Gamma of Call = 4.50879e-06

S = 24, h = 0.1, Delta of Put = -0.951229

S = 25, h = 0.001, Gamma of Call = 0.107208

S = 25, h = 0.001, Delta of Put = -0.951229

S = 25, h = 0.01, Gamma of Call = 0.00108103

S = 25, h = 0.01, Delta of Put = -0.951229

S = 25, h = 0.1, Gamma of Call = 1.17067e-05

S = 25, h = 0.1, Delta of Put = -0.951229

S = 26, h = 0.001, Gamma of Call = 0.263502

S = 26, h = 0.001, Delta of Put = -0.951229

S = 26, h = 0.01, Gamma of Call = 0.00265566

S = 26, h = 0.01, Delta of Put = -0.951229

S = 26, h = 0.1, Gamma of Call = 2.86225e-05

S = 26, h = 0.1, Delta of Put = -0.951229

S = 27, h = 0.001, Gamma of Call = 0.61292

S = 27, h = 0.001, Delta of Put = -0.951229

S = 27, h = 0.01, Gamma of Call = 0.0061743

S = 27, h = 0.01, Delta of Put = -0.951229

S = 27, h = 0.1, Gamma of Call = 6.62578e-05

S = 27, h = 0.1, Delta of Put = -0.951229

S = 28, h = 0.001, Gamma of Call = 1.35574

S = 28, h = 0.001, Delta of Put = -0.951229

S = 28, h = 0.01, Gamma of Call = 0.0136514

S = 28, h = 0.01, Delta of Put = -0.951229

S = 28, h = 0.1, Gamma of Call = 0.000145912

S = 28, h = 0.1, Delta of Put = -0.951229

S = 29, h = 0.001, Gamma of Call = 2.86388

S = 29, h = 0.001, Delta of Put = -0.951228

S = 29, h = 0.01, Gamma of Call = 0.0288258

S = 29, h = 0.01, Delta of Put = -0.951228

S = 29, h = 0.1, Gamma of Call = 0.000306975

S = 29, h = 0.1, Delta of Put = -0.951228

S = 30, h = 0.001, Gamma of Call = 5.79927

S = 30, h = 0.001, Delta of Put = -0.951227

S = 30, h = 0.01, Gamma of Call = 0.0583503

S = 30, h = 0.01, Delta of Put = -0.951227

S = 30, h = 0.1, Gamma of Call = 0.000619287

S = 30, h = 0.1, Delta of Put = -0.951227

S = 31, h = 0.001, Gamma of Call = 11.2953

S = 31, h = 0.001, Delta of Put = -0.951226

S = 31, h = 0.01, Gamma of Call = 0.113611

S = 31, h = 0.01, Delta of Put = -0.951226

S = 31, h = 0.1, Gamma of Call = 0.00120201

S = 31, h = 0.1, Delta of Put = -0.951226

S = 32, h = 0.001, Gamma of Call = 21.224

S = 32, h = 0.001, Delta of Put = -0.951223

S = 32, h = 0.01, Gamma of Call = 0.213412

S = 32, h = 0.01, Delta of Put = -0.951223

S = 32, h = 0.1, Gamma of Call = 0.00225134

S = 32, h = 0.1, Delta of Put = -0.951223

S = 33, h = 0.001, Gamma of Call = 38.578

S = 33, h = 0.001, Delta of Put = -0.951218

S = 33, h = 0.01, Gamma of Call = 0.387799

S = 33, h = 0.01, Delta of Put = -0.951218

S = 33, h = 0.1, Gamma of Call = 0.00407997

S = 33, h = 0.1, Delta of Put = -0.951218

S = 34, h = 0.001, Gamma of Call = 67.9966

S = 34, h = 0.001, Delta of Put = -0.951211

S = 34, h = 0.01, Gamma of Call = 0.683343

S = 34, h = 0.01, Delta of Put = -0.951211

S = 34, h = 0.1, Gamma of Call = 0.00717129

S = 34, h = 0.1, Delta of Put = -0.951211

S = 35, h = 0.001, Gamma of Call = 116.472

S = 35, h = 0.001, Delta of Put = -0.951199

S = 35, h = 0.01, Gamma of Call = 1.17022

S = 35, h = 0.01, Delta of Put = -0.951199

S = 35, h = 0.1, Gamma of Call = 0.012252

S = 35, h = 0.1, Delta of Put = -0.951199

S = 36, h = 0.001, Gamma of Call = 194.27

S = 36, h = 0.001, Delta of Put = -0.951181

S = 36, h = 0.01, Gamma of Call = 1.95142

S = 36, h = 0.01, Delta of Put = -0.951181

S = 36, h = 0.1, Gamma of Call = 0.0203865

S = 36, h = 0.1, Delta of Put = -0.951181

S = 37, h = 0.001, Gamma of Call = 316.099

S = 37, h = 0.001, Delta of Put = -0.951154

S = 37, h = 0.01, Gamma of Call = 3.1745

S = 37, h = 0.01, Delta of Put = -0.951154

S = 37, h = 0.1, Gamma of Call = 0.0330961

S = 37, h = 0.1, Delta of Put = -0.951154

S = 38, h = 0.001, Gamma of Call = 502.558

S = 38, h = 0.001, Delta of Put = -0.951116

S = 38, h = 0.01, Gamma of Call = 5.04604

S = 38, h = 0.01, Delta of Put = -0.951116

S = 38, h = 0.1, Gamma of Call = 0.0525072

S = 38, h = 0.1, Delta of Put = -0.951116

S = 39, h = 0.001, Gamma of Call = 781.887

S = 39, h = 0.001, Delta of Put = -0.951061

S = 39, h = 0.01, Gamma of Call = 7.84923

S = 39, h = 0.01, Delta of Put = -0.951061

S = 39, h = 0.1, Gamma of Call = 0.0815293

S = 39, h = 0.1, Delta of Put = -0.951061

S = 40, h = 0.001, Gamma of Call = 1192.04

S = 40, h = 0.001, Delta of Put = -0.950984

S = 40, h = 0.01, Gamma of Call = 11.9646

S = 40, h = 0.01, Delta of Put = -0.950984

S = 40, h = 0.1, Gamma of Call = 0.124066

S = 40, h = 0.1, Delta of Put = -0.950984

S = 41, h = 0.001, Gamma of Call = 1783.1

S = 41, h = 0.001, Delta of Put = -0.950879

S = 41, h = 0.01, Gamma of Call = 17.8942

S = 41, h = 0.01, Delta of Put = -0.950879

S = 41, h = 0.1, Gamma of Call = 0.185257

S = 41, h = 0.1, Delta of Put = -0.950879

S = 42, h = 0.001, Gamma of Call = 2619.98

S = 42, h = 0.001, Delta of Put = -0.950737

S = 42, h = 0.01, Gamma of Call = 26.2885

S = 42, h = 0.01, Delta of Put = -0.950737

S = 42, h = 0.1, Gamma of Call = 0.271755

S = 42, h = 0.1, Delta of Put = -0.950737

S = 43, h = 0.001, Gamma of Call = 3785.44

S = 43, h = 0.001, Delta of Put = -0.950548

S = 43, h = 0.01, Gamma of Call = 37.977

S = 43, h = 0.01, Delta of Put = -0.950548

S = 43, h = 0.1, Gamma of Call = 0.392031

S = 43, h = 0.1, Delta of Put = -0.950548

S = 44, h = 0.001, Gamma of Call = 5383.43

S = 44, h = 0.001, Delta of Put = -0.950302

S = 44, h = 0.01, Gamma of Call = 54.0012

S = 44, h = 0.01, Delta of Put = -0.950302

S = 44, h = 0.1, Gamma of Call = 0.556703

S = 44, h = 0.1, Delta of Put = -0.950302

S = 45, h = 0.001, Gamma of Call = 7542.53

S = 45, h = 0.001, Delta of Put = -0.949985

S = 45, h = 0.01, Gamma of Call = 75.6493

S = 45, h = 0.01, Delta of Put = -0.949985

S = 45, h = 0.1, Gamma of Call = 0.778894

S = 45, h = 0.1, Delta of Put = -0.949985

S = 46, h = 0.001, Gamma of Call = 10419.7

S = 46, h = 0.001, Delta of Put = -0.949582

S = 46, h = 0.01, Gamma of Call = 104.493

S = 46, h = 0.01, Delta of Put = -0.949582

S = 46, h = 0.1, Gamma of Call = 1.0746

S = 46, h = 0.1, Delta of Put = -0.949582

S = 47, h = 0.001, Gamma of Call = 14203.9

S = 47, h = 0.001, Delta of Put = -0.949075

S = 47, h = 0.01, Gamma of Call = 142.427

S = 47, h = 0.01, Delta of Put = -0.949075

S = 47, h = 0.1, Gamma of Call = 1.46305

S = 47, h = 0.1, Delta of Put = -0.949075

S = 48, h = 0.001, Gamma of Call = 19120.2

S = 48, h = 0.001, Delta of Put = -0.948447

S = 48, h = 0.01, Gamma of Call = 191.703

S = 48, h = 0.01, Delta of Put = -0.948447

S = 48, h = 0.1, Gamma of Call = 1.96712

S = 48, h = 0.1, Delta of Put = -0.948446

S = 49, h = 0.001, Gamma of Call = 25432.9

S = 49, h = 0.001, Delta of Put = -0.947675

S = 49, h = 0.01, Gamma of Call = 254.968

S = 49, h = 0.01, Delta of Put = -0.947675

S = 49, h = 0.1, Gamma of Call = 2.61366

S = 49, h = 0.1, Delta of Put = -0.947675

S = 50, h = 0.001, Gamma of Call = 33449.5

S = 50, h = 0.001, Delta of Put = -0.946739

S = 50, h = 0.01, Gamma of Call = 335.303

S = 50, h = 0.01, Delta of Put = -0.946739

S = 50, h = 0.1, Gamma of Call = 3.43386

S = 50, h = 0.1, Delta of Put = -0.946739

Decisions:

Placed all the various Option Pricing and Greek calculation schemes with S,r,T,sig… in a single method to avoid redundant code usage. I used Enums for the Option class/European Option classes to allow the user to specify which parameter type desired instead of hard coded strings to safe guard against spelling errors and limit the amount of parameters that user might typen as well as discarding any need for exceptions.