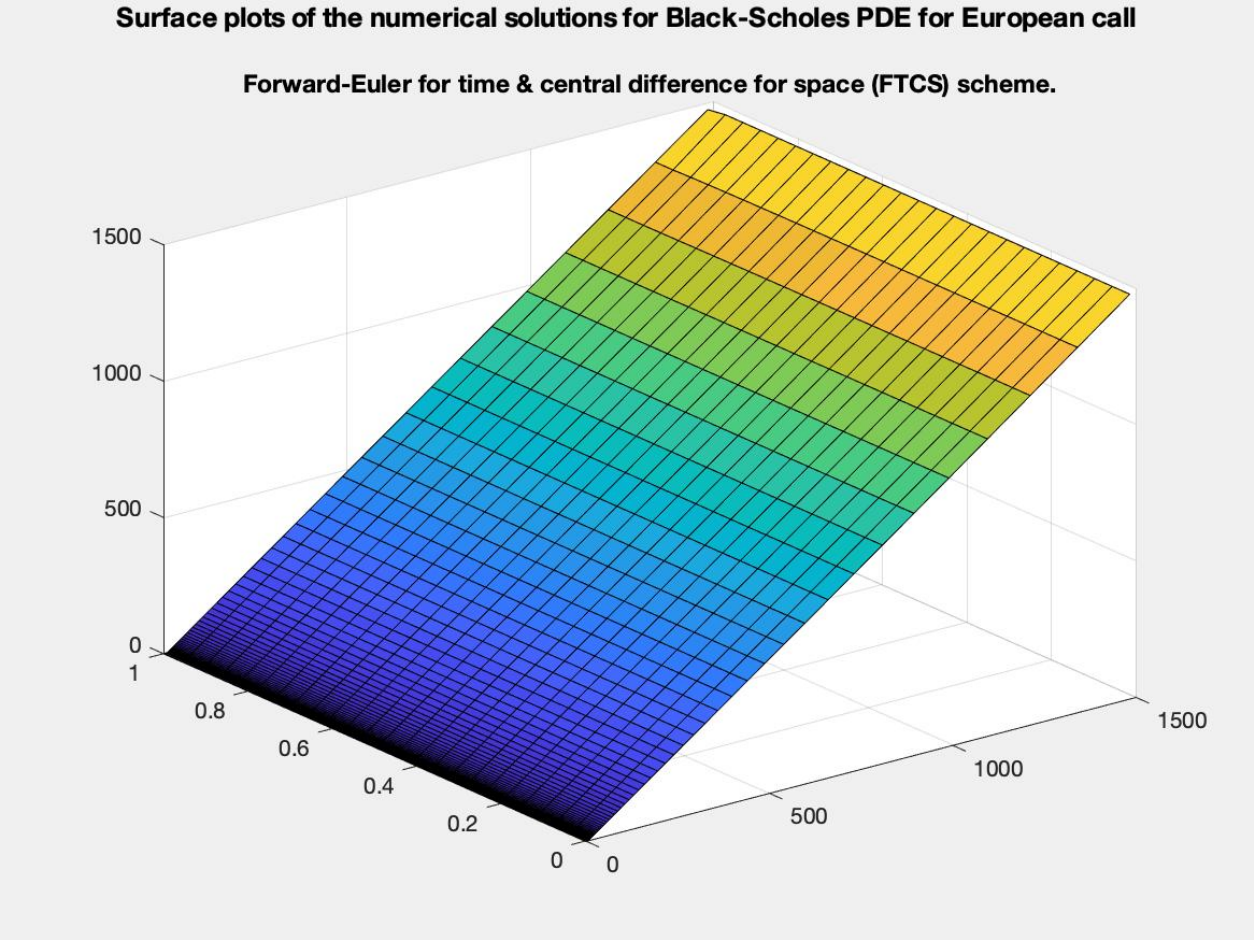
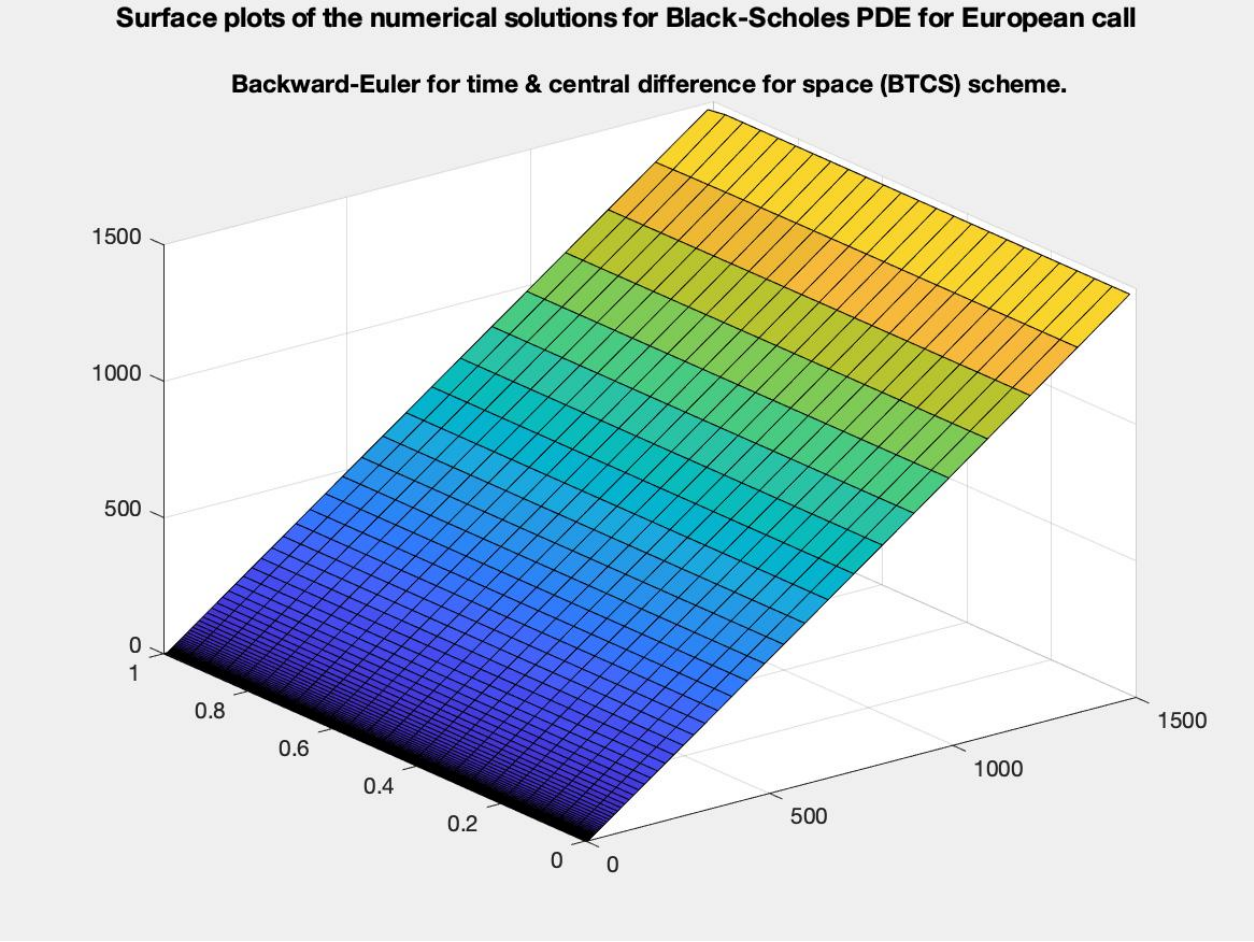
Ayush Sharma
(150123046)

29 January 2019

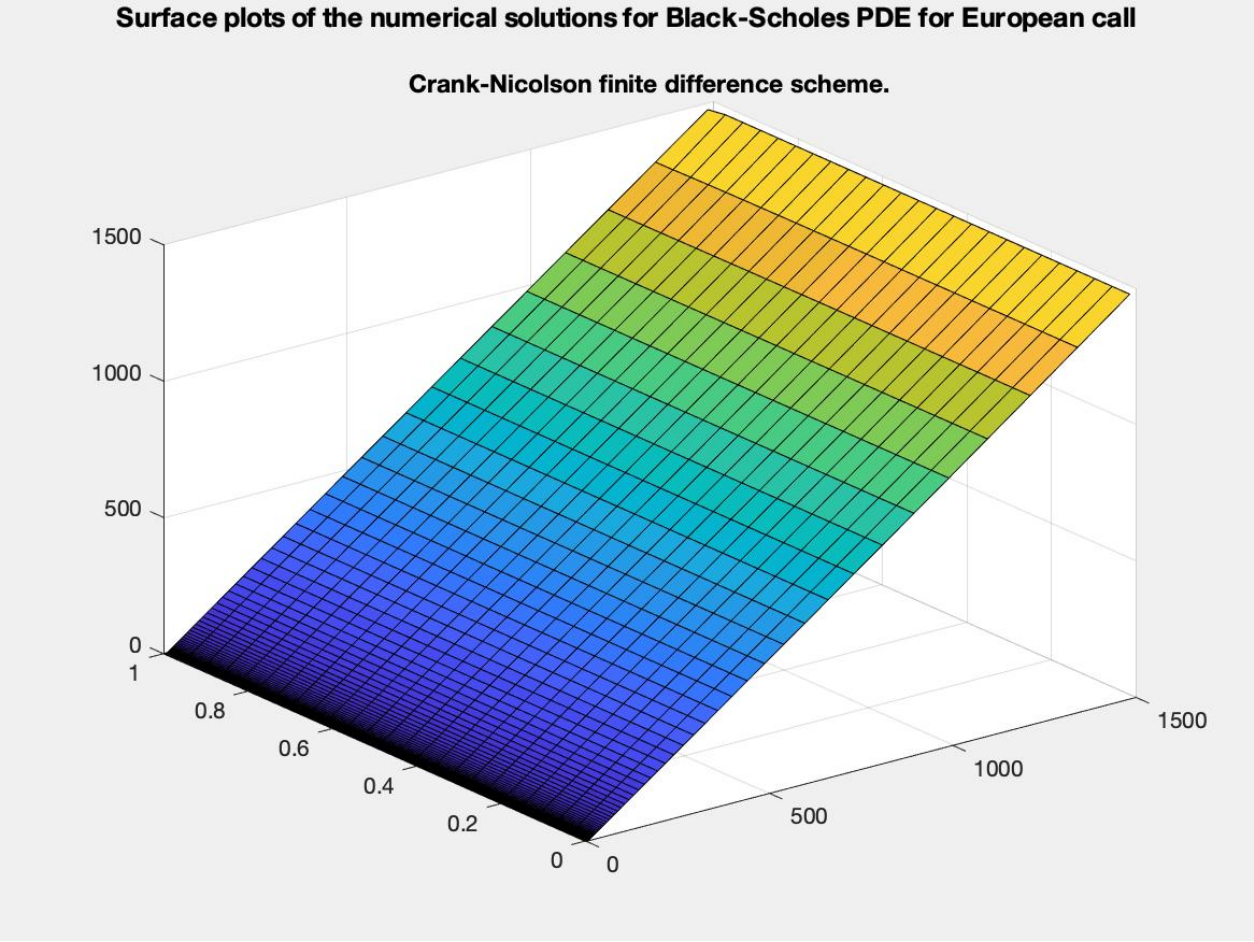
# Question 1.(a)



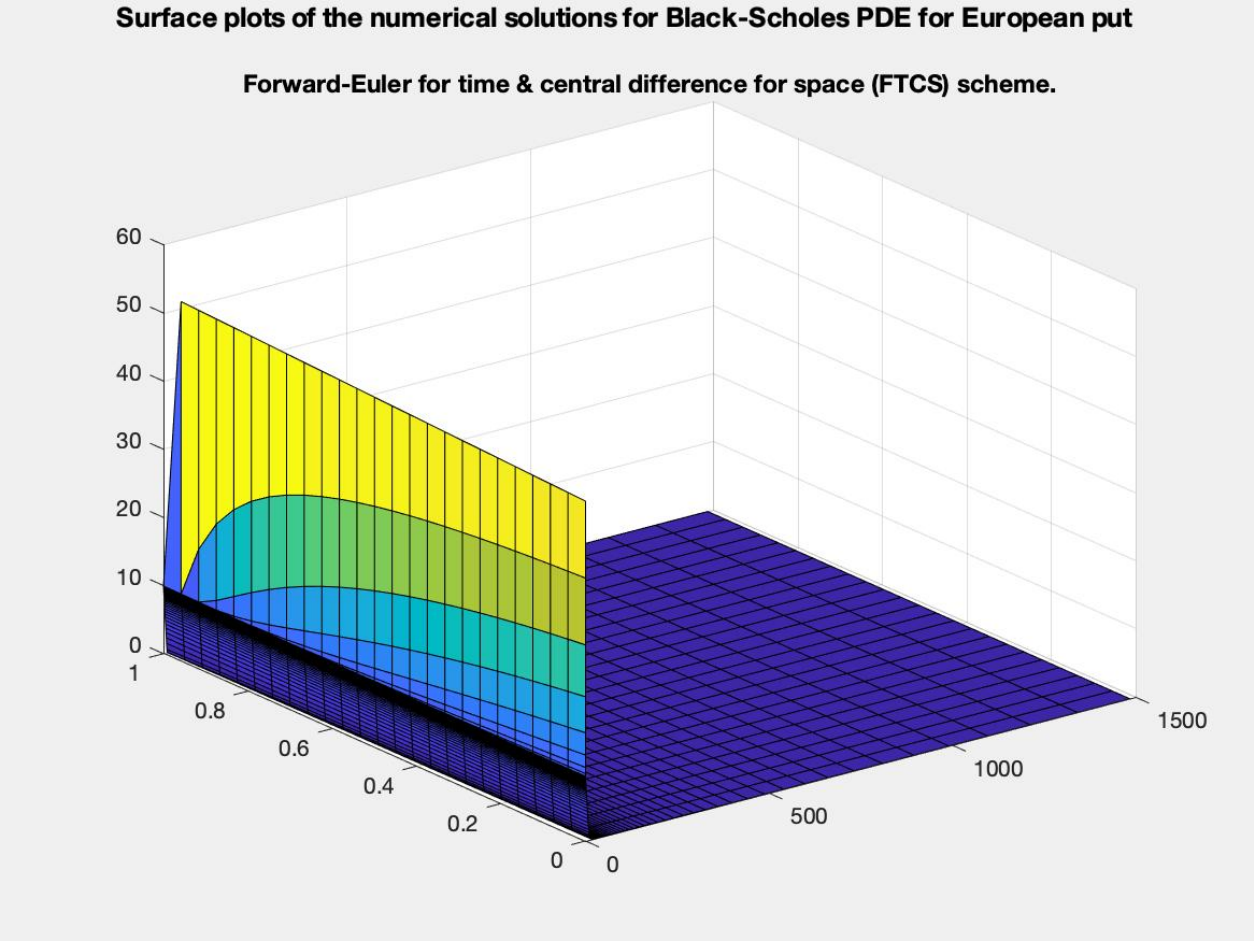
# Question 1.(b)


Surface plots of the numerical solutions for Black-Scholes PDE for European call
Backward-Euler for time & central difference for space (BTCS) scheme.
1500
1000
500
0
1
0.8
0.6
0.4
0.2
0
0
500
1000
1500

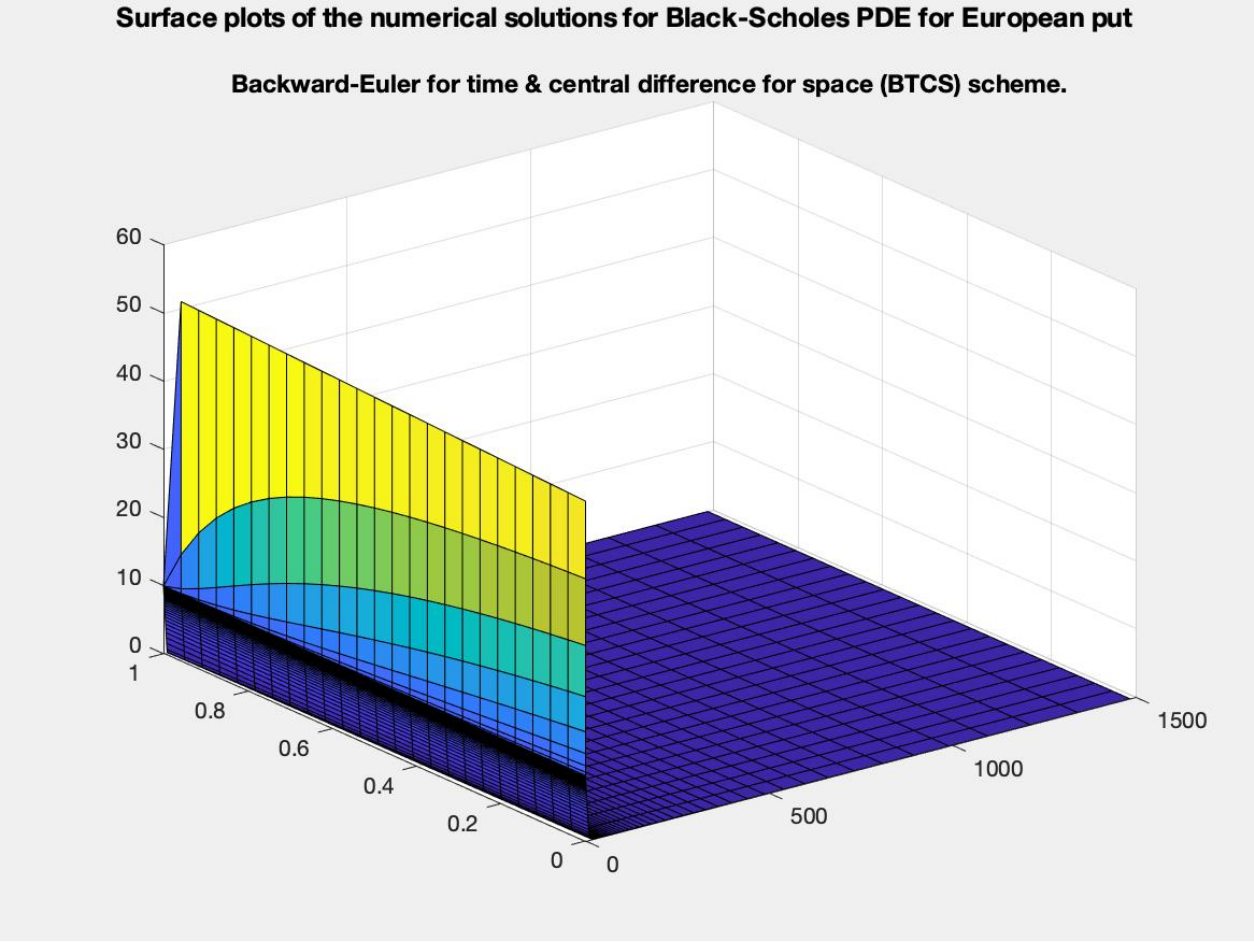
# Question 1.(c)


Surface plots of the numerical solutions for Black-Scholes PDE for European call
Crank-Nicolson finite difference scheme.
1500
1000
500
0
1
0.8
0.6
0.4
0.2
0
0
500
1000
1500

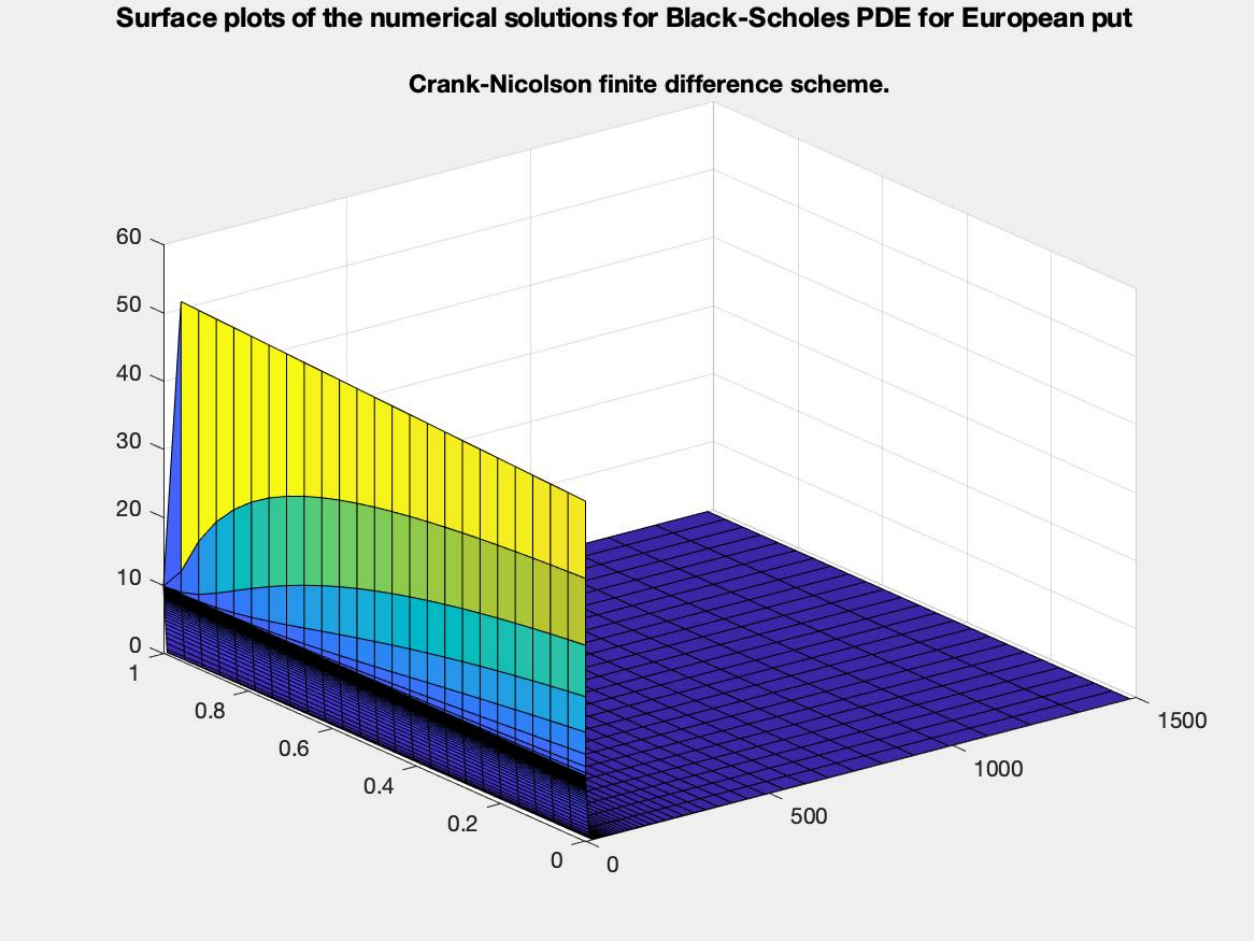
# Question 2.(a)


Surface plots of the numerical solutions for Black-Scholes PDE for European put
Forward-Euler for time & central difference for space (FTCS) scheme.
60
50
40
30
20
10
0
1
0.8
0.6
0.4
0.2
0
0
500
1000
1500

# Question 2.(b)


Surface plots of the numerical solutions for Black-Scholes PDE for European put
Backward-Euler for time & central difference for space (BTCS) scheme.
60
50
40
30
20
10
0
1
0.8
0.6
0.4
0.2
0
0
500
1000
1500

# Question 2.(c)


Surface plots of the numerical solutions for Black-Scholes PDE for European put
Crank-Nicolson finite difference scheme.
60
50
40
30
20
10
0
1
0.8
0.6
0.4
0.2
0
0
500
1000
1500