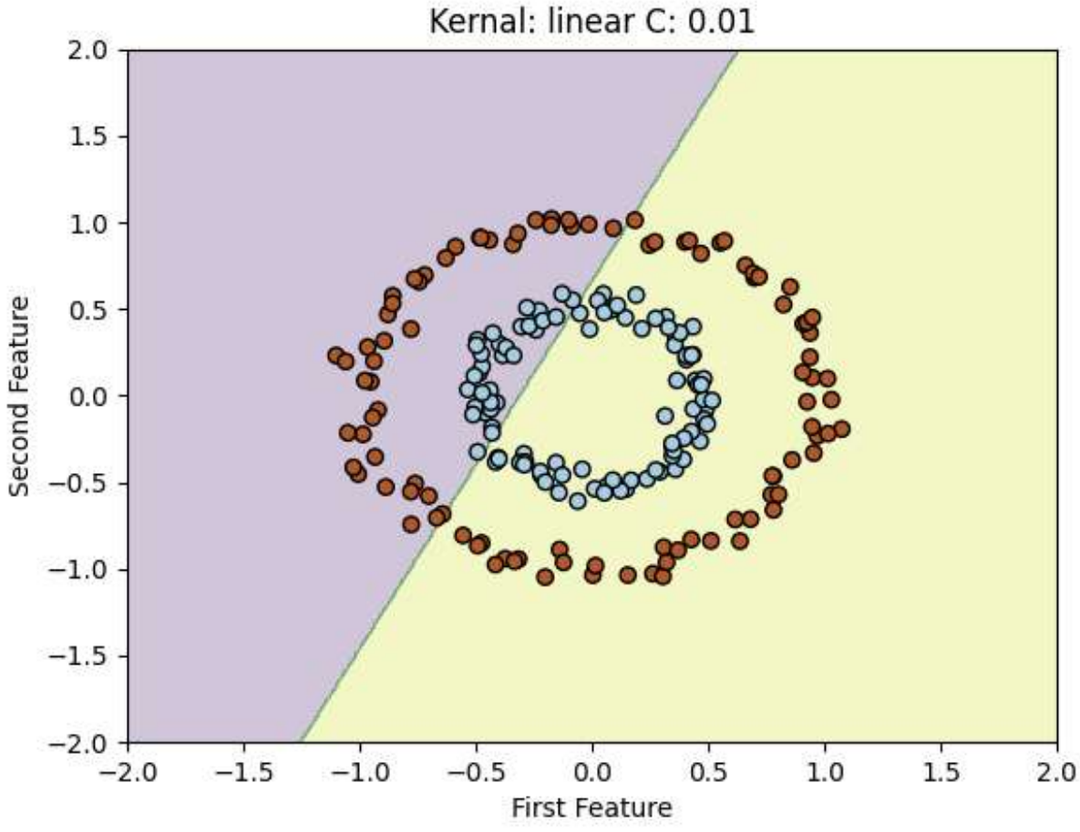
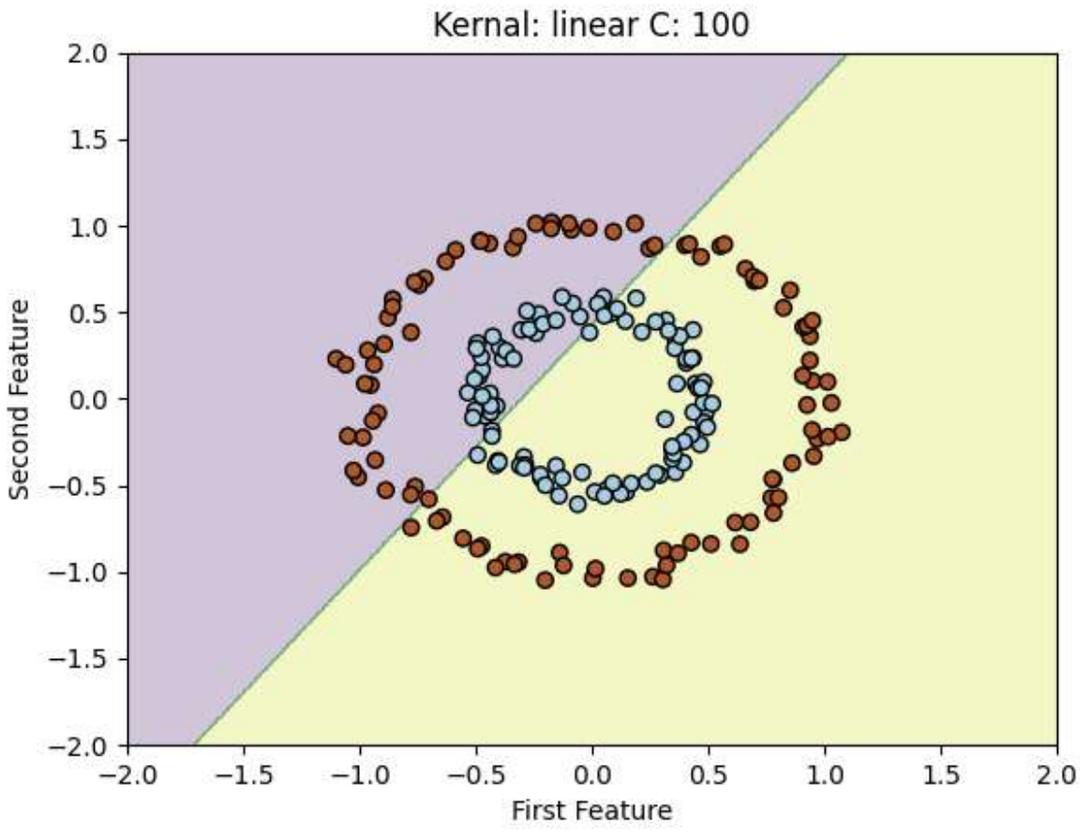
Part 2

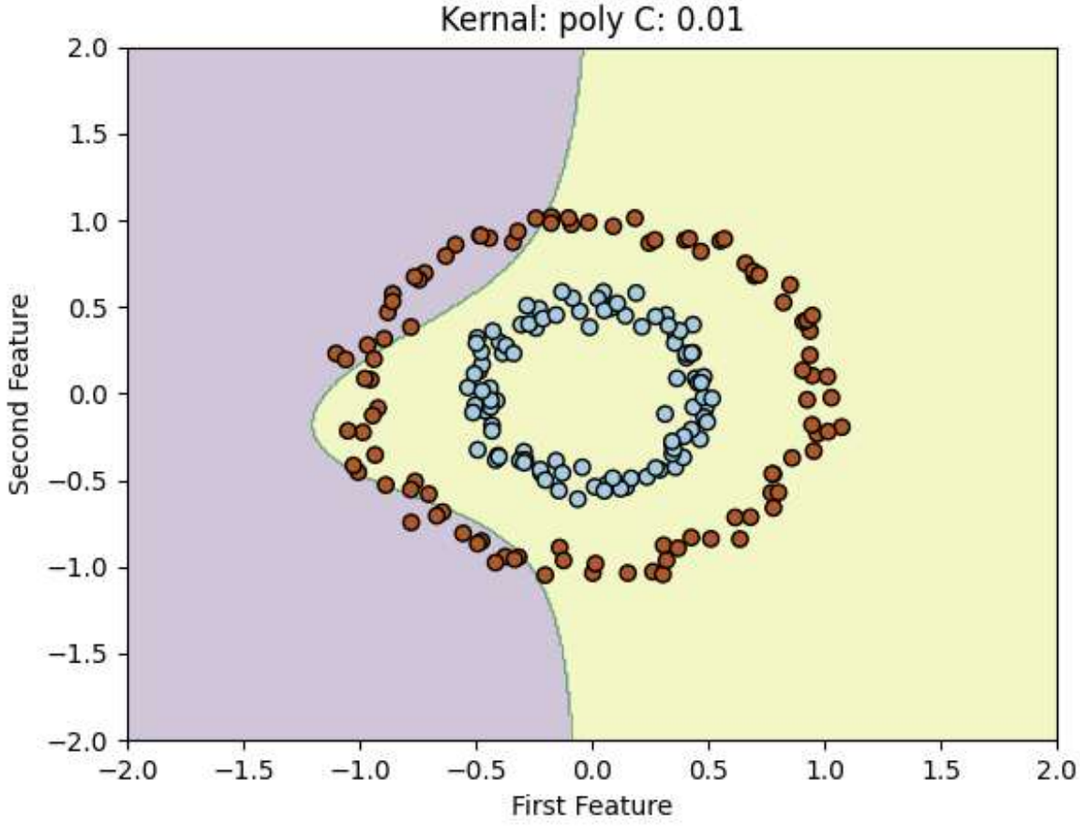
Setup:

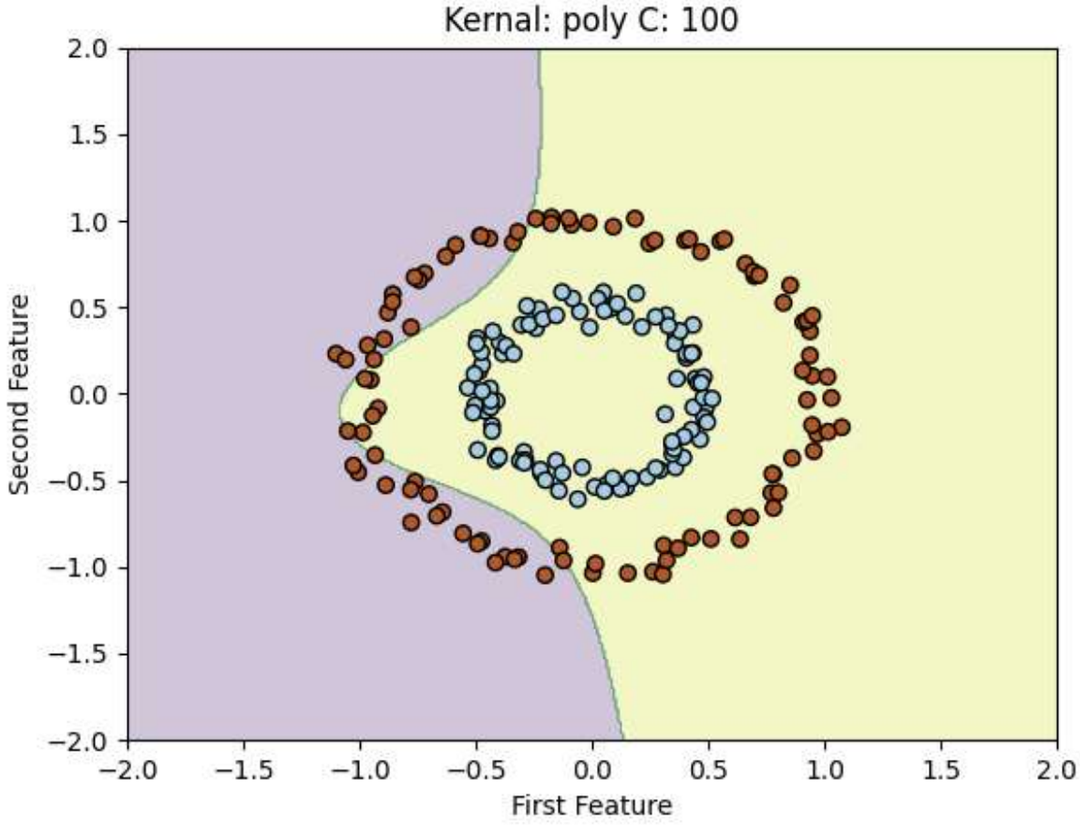
The program was run on linear, poly and rbf kernels, and c values tested were 0.01 and 100.

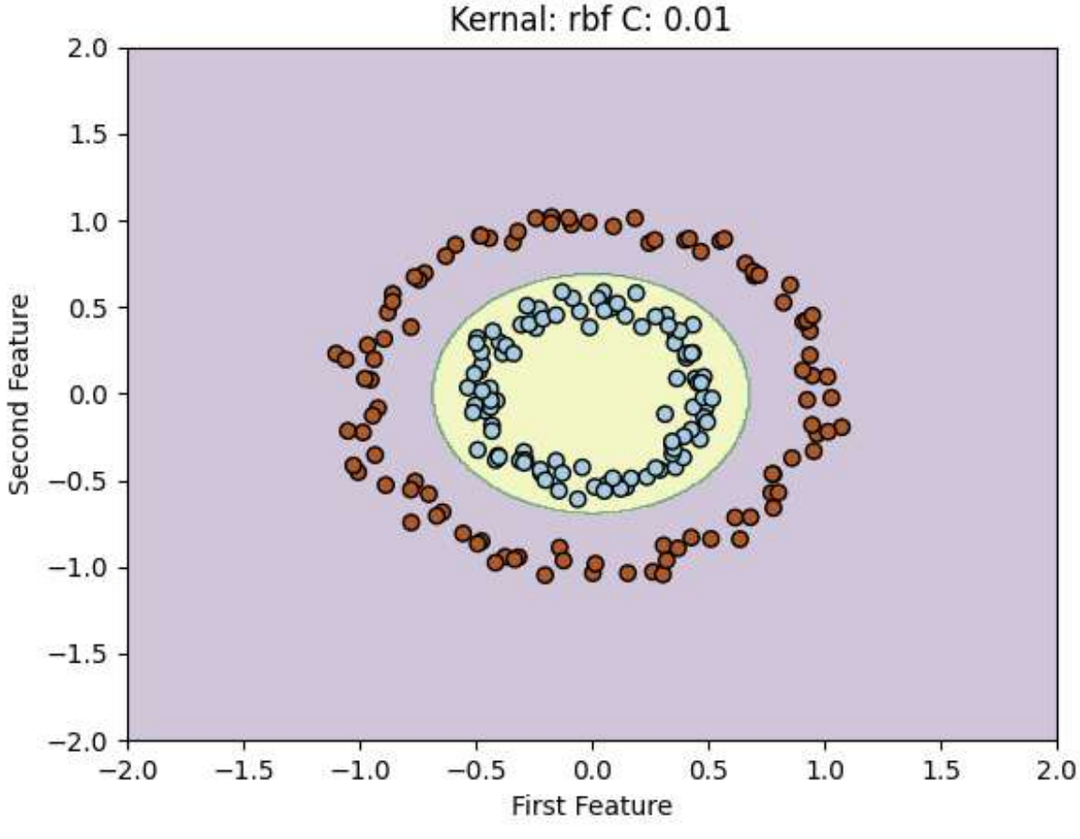
Dataset 1:

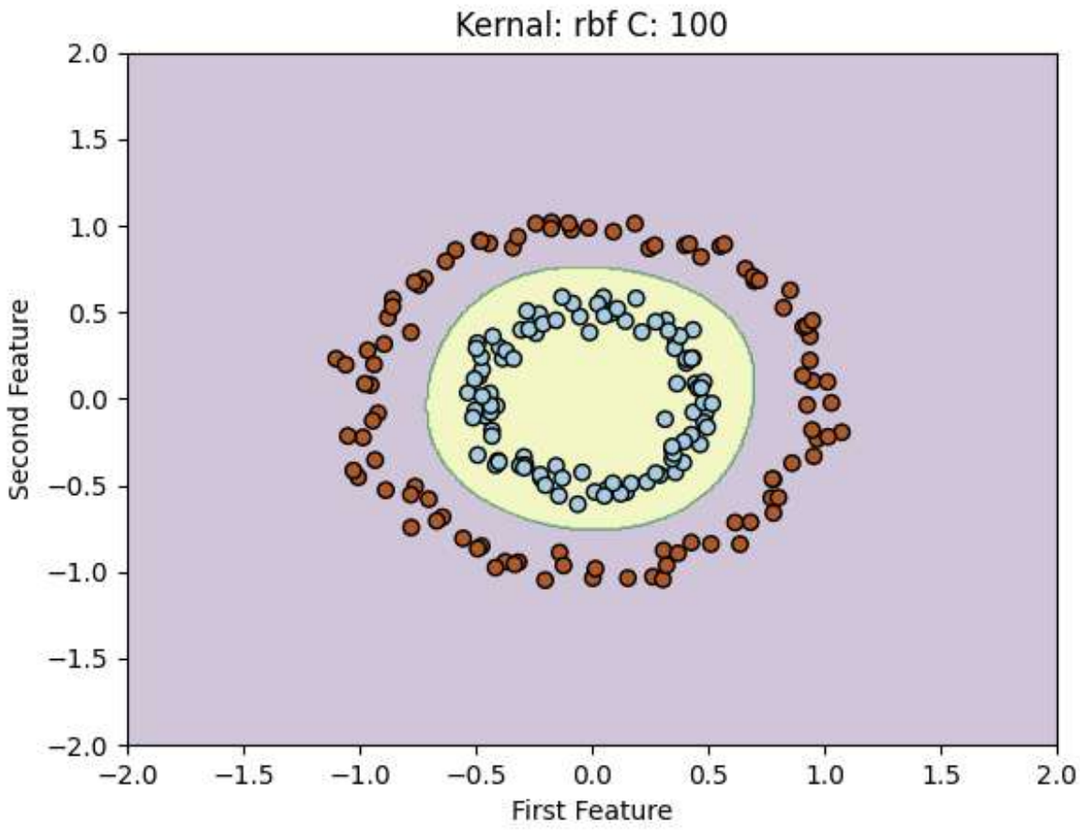



Kernal: linear C: 100
Second Feature
First Feature
2.0
1.5
1.0
0.5
0.0
−0.5
−1.0
−1.5
−2.0
−2.0
−1.5
−1.0
−0.5
0.0
0.5
1.0
1.5
2.0


Kernal: poly C: 0.01
Second Feature
First Feature
2.0
1.5
1.0
0.5
0.0
−0.5
−1.0
−1.5
−2.0
−2.0
−1.5
−1.0
−0.5
0.0
0.5
1.0
1.5
2.0


Kernal: poly C: 100
Second Feature
First Feature
2.0
1.5
1.0
0.5
0.0
−0.5
−1.0
−1.5
−2.0
−2.0
−1.5
−1.0
−0.5
0.0
0.5
1.0
1.5
2.0


Kernal: rbf C: 0.01
Second Feature
First Feature
2.0
1.5
1.0
0.5
0.0
−0.5
−1.0
−1.5
−2.0
−2.0
−1.5
−1.0
−0.5
0.0
0.5
1.0
1.5
2.0



Comments: The best one was with kernal rbf because it separates the data correctly. Although the c value didn’t matter much we can see that with bigger c value the margin is a little bit bigger.