Part A:
Number of Support Vector : 28
Accuracy(linear kernel) over entire test set : 97.877 %

Part B:

- **Train of first 50 dataset**:
  Number of Support Vector : 2
  Accuracy(linear kernel) over entire test set : 97.40 %
- **Train on first 100 dataset**:
  Number of Support Vector : 2
  Accuracy(linear kernel) over entire test set : 96.93 %
- **Train on first 200 dataset**:
  Number of Support Vector : 6
  Accuracy(linear kernel) over entire test set : 97.64 %
- **Train on first 800 dataset**:
  Number of Support Vector : 10
  Accuracy(linear kernel) over entire test set : 97.40 %

Part C:

- When C = 0.0001, training error is higher at Q = 5. **TRUE**
- When C = 0.001, the number of support vectors is lower at Q = 5. **TRUE**
- When C = 0.01, training error is higher at Q = 5. **FALSE, both are giving same result**
- When C = 1, test error is lower at Q = 5. **TRUE**

Part D
At C =10^6, C =10^4, , RBF kernel will give lowest training error.
At C = 0.01, C = 100, RBF kernel will give lowest test error.

C	**Training error**	**Test error**
C =0.01	0.45	1.89
C =1	0.39	2.13
C =10^2	0.33	1.89
C =10^4	0.26	2.13
C =10^6	0.26	2.36