

# Assignment 2 Report

## B.SAI DEEP 2012CS10223

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### Q1

- **CVX**

- **Linear**

- **Accuracy** : 98.4596%

- **Support Vectors** : 502

- **Gaussian**

- **Accuracy** : 98.7163 %

- **Support Vectors** : 912

- **LibSVM accuracy**

- **Linear** : 97.8177 %

- **Gaussian** : 98.7163 %

- **Comparison of LibSVM & CVX :**

- Accuracies are almost identical.

- LibSVM is a lot faster.

### Q2

a) **Done**

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**b) Stopping Criteria**

If change in error term is less than 0.0001 or number of iterations is greater than  $10 \times 11982$

**c)**

- **Accuracy** : 96.9254 %
- **Training Time** : 55.024190 seconds

**d)**

- **Accuracy** : 80.0023 %
- **Training Time** : 151 seconds

10 output units are needed in this case

Much more time is taken than in the previous case.