ML - Assignment - 07

Q1 (a)

(ii) The dual values tells us the importance of each constraints in the optimization formulation.

In case of hard - margin SVM most of the dual values are zero except for the support vector points.

Q1 (a)

(v) The support vector points will not change because the support vector points are the ones that decide the decision boundary & maximize the margin between the two classes. Including & only these points will not affect the decision boundary.

~~Q2(b)~~

Q1(b)

(i) Autograd cannot be used ~~to~~ ~~compute~~ for soft margin SVM due to the non-differentiability of the max function.

Q1(b)

(iii) Yes the observation is similar using SKLEARN & my SVM

Q1(b)

(iv) The degree or gamma when increased the decision boundary becomes complex & starts overfitting on the train data.