Assignment on Support Vector Machine (#7) for predicting Heart disease of a patient using Cleveland heart disease dataset.

Title: Implementation of simplified SMO algorithm

Name of the instructor- Prof G C Nandi

References: " My video lectures on ML: 30-39".

Full marks-100

Objective: To learn how to train and predict a soft margin-SVM with RBF kernel using SMO algorithm.

1. Use the dataset of heart disease provided on my assignment folder of the course with the following pre-processing and instructions:
    - Use only two features for simplicity- age (data in column #1) and trestbps (on admission to the hospital, data in column #4, i.e resting blood pressure in mm/Hg)
    - Modify the last column (# 14) from 1 –heart disease & 0 –no heart disease to $Y^{(i)}$= {1 and -1}.
    - Apply feature scaling methods to the data of Col# 1 and Col# 4.
    - Use 70% data for training and 30% for testing.

2. Study the J Platt's paper on SMO algorithm provided in this folder for your convenience and implement.
3. For further inspiration you may see this Github implementation:
4. Always put proper references for the materials you are using.

   https://github.com/apex51/SVM-and-sequential-minimal-optimization

Date of uploading the assignment: 17-10-2020.

Deadline for assignment submission: 31-10-2020 mid night.

Degree of difficulty -7 (10 being most challenging)