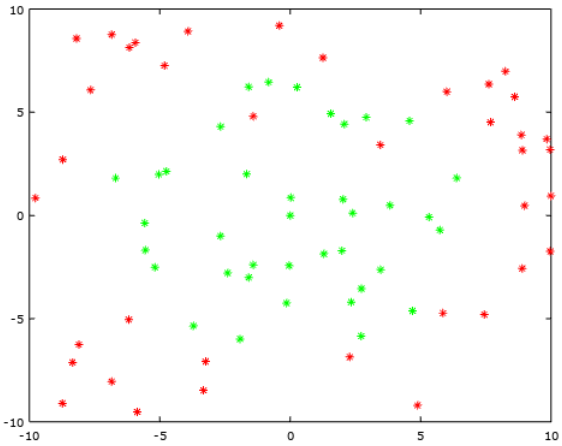
EXERCISE 4

PROF. DR. VÍCTOR UC CETINA

1. Binary Classification through AdaBoost



(1) Download the data file "dataCircle.mat" (or "dataCircle.txt" if you are not using matlab) which contains a matrix of size 102×3. The first 40 rows are positive examples (label 1) of points in 2 dimensions. The last 62 rows are negative examples (label 0) also in 2 dimensions.
(2) Implement in Python the AdaBoost algorithm using as weak classifiers lines parallel to the x and y axis, so that you classify correctly both types of data.
(3) Plot the data points using one color for each class of data. Also, plot the weak classifier lines.
(4) Prepare a report containing your final model (including parameters), and your graph.
(5) Provide your code in the same document or as a link to your notebook in Google Colab (make sure to give sharing permissions to your notebook). If you are not using Google Colab, please add your code as a jupyter notebook.

2. Exercise Submission

- Deadline: May 27th, 2022.
- Note: Do not forget to include your names in the report!