

## Brief Description:

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This directory contains the following files:

- Assignment 3B.pdf : Description of problem statement
- ann.py : Contains the functions related to the MLP Classifier - biodeg.csv : Contains the data used for training both MLP and Binary SVM Classifier
- comparison\_plots.png : The plots of **learning rate vs accuracy for each model** (in top row) and **model vs accuracy for each learning rate** (in bottom row)
- main.py : Contains the solution to problems provided in the Assignment 3B.pdf
- requirements.txt : Contains all the necessary dependencies and their versions
- simulations.txt : Sample simulation output on entire data
- svm.py : Contains the functions related to the Binary SVM Classifier
- utils.py : Contains all the helper functions used by the above files (if any)

## Directions to use the code

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1. Download this directory into your local machine
2. Copy the file biodeg.csv to the directory where the code resides
3. Ensure all the necessary dependencies with required version and latest version of Python3 are available (verify with requirements.txt ) `pip3 install -r requirements.txt`
4. Run specific functions with the aid of main.py

For giving the maxc parameter (the maximum value of C to be checked (on log-scale) would be  $10^{\text{maxc}}$ )

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- Using the default maxc = 4  
`python3 main.py`
- Giving input integer maxc (say 2 i.e., maximum C value to be checked would be  $10^2$ ) -- integer should be greater than or equal to 0  
`python3 main.py --maxc 2`
- For more help regarding the arguments  
`python3 main.py --help`