Command to run the python code

```
python main.py  <algorithm_name> <dataset_name> <number_of_hidden_nodes> <
    threshold(only for classification)>
```

Please run the codes in python 2.7

Please put all the data files in a folder named data in the code directory, i.e. the dataset file which you are giving should be in a folder named data in the code directory.

For example to run the elm classifier with htru dataset with number of hidden nodes = 5000 and threshold = 0.5, you can run the following code on the command prompt.

```
python main.py  <algorithm_name> <dataset_name> <number_of_hidden_nodes> <
    threshold>
python main.py -elmc -htru 5000 0.5
```

For example to run the rvfl regression algorithm with wine dataset with number of hidden nodes = 5000, you can run the following code on the command prompt.

```
python main.py  <algorithm_name> <dataset_name> <number_of_hidden_nodes>
python main.py -rvflr -wine 5000
```

Now let us elaborate on the command line parameters for the code for different algorithms:-

The code should look like :-

```
python main.py <algorithm_name> <dataset-name> <number-of-hidden-nodes>
```

We have 3 parameters which are:
$< algorithm_name >$ We need to provide the algorithm name which we want to run.
The algorithms names can be :-

- -elmc - for elm classification
- -rvflc - for rvfl classification
- -elmr - for elm regression

- -rvflr for rvfl regression
- -allc - for all comparison classification algorithms
- -allr - for all comparison regression algorithms

$< dataset - name >$ We need to provide the dataset name for which we want to run the algorithm.
The dataset names can be:-

- Classification
  - -banknote_authentication
  - -htru
  - -sonar
  - -ionosphere
- Regression
  - -wine
  - -airfoil
  - -abalone

$< number - of - hidden - nodes >$ We need to provide the number of hidden nodes for which we want to run the algorithm.
$< Threshold >$ This is only for classification. Choose what value of threshold you want to use. (Between 0 to 1)

These are the modules/imports required for the code:-

```
import sys
import warnings
import numpy as np
import math
from numpy.ma import tanh as tanh_function, exp
from sklearn import metrics
from sklearn.linear_model import LinearRegression
from sklearn.svm import SVR
```

```
from sklearn.tree import DecisionTreeRegressor
from sklearn.ensemble import RandomForestRegressor
import numpy as np
import pandas
from sklearn import metrics
import pandas as pd
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LogisticRegression
from sklearn.neighbors import KNeighborsClassifier
from sklearn.naive_bayes import GaussianNB
from sklearn.tree import DecisionTreeClassifier
```

These are the modules that need to be installed on the devices on which the code is run. Please install all these before running the code.