

To compile the code use below steps:

1. Copy all the .cpp files and .hpp files in a folder. In the terminal go to the folder where .cpp and .hpp files are copied and run the below command in linux terminal

```
g++ -g -Wall -Wno-deprecated -Werror -std=gnu++14 -I../include -c  
tree_node.hpp tree_node.cpp decision_tree.hpp decision_tree.cpp  
csv.hpp csv.cpp tree_main.cpp
```

The above command creates object files tree_main.o csv.o tree_node.o decision_tree.o

2. To generate executable, run below command.

```
g++ -o DecisionTree tree_main.o csv.o tree_node.o decision_tree.o
```

An executable with name DecisionTree will be created.

To Run the executable:

Use below format to run the executable

```
./DecisionTree -options train_data.csv valid_data.csv test_data.csv
```

-options are below:

- e Entropy
- er Entropy with reduced error pruning
- ed Entropy with depth-based pruning
- v Variance
- vr Variance with reduced error pruning
- vd Variance with depth-based pruning

The options and three files must be given for the executable as command line arguments for all the algorithms.

Ex: ./DecisionTree -e train_c300_d100.csv valid_c300_d100.csv test_c300_d100.csv