

**Name:** Sanket Prabhu  
**Net ID:** srp140430

### **Execution Information:**

Extract prabhu\_srp140430.

From the command prompt navigate to  
**/prabhu\_srp140430/MachineLearningHW2** and then run the following commands

```
javac hw2/ml/*.java
```

And then run the following command to execute:

```
java hw2.ml.srp140430 1000 8 training_set.csv validation_set.csv test_set.csv no
```

Where the numeric digits are L and K.

**To change the data set to test the program on:**

Copy the files to **/prabhu\_srp140430/MachineLearningHW2** folder and then pass the name of the files as parameter to above execution command.

### **Test Result:**

**Information Gain Heuristic:**

**Data\_set1:**

Decision Tree Accuracy based on Training data: 75.949999999999

L	K	Accuracy without Pruning	Accuracy after Pruning
253	6	75.949	76.4
6761	9	75.949	76.5
4003	10	75.949	76.1
2867	10	75.949	76.1
955	1	75.949	76.4
1235	7	75.949	75.8
6481	6	75.949	76.4
7716	3	75.949	76.449
9358	7	75.949	76.449
2	3	75.949	75.949

**Data\_set2:**

Decision Tree Accuracy based on Training data: 72.833333333333

L	K	Accuracy without Pruning	Accuracy after Pruning
6754	12	72.83	72.5
615	27	72.83	72.1667
1050	52	72.83	71.5
714	89	72.83	72.5
2965	17	72.83	72.5
1228	64	72.83	73.0
1357	84	72.83	73.0
5063	83	72.83	72.1667
8548	44	72.83	72.83
192	62	72.83	72.83