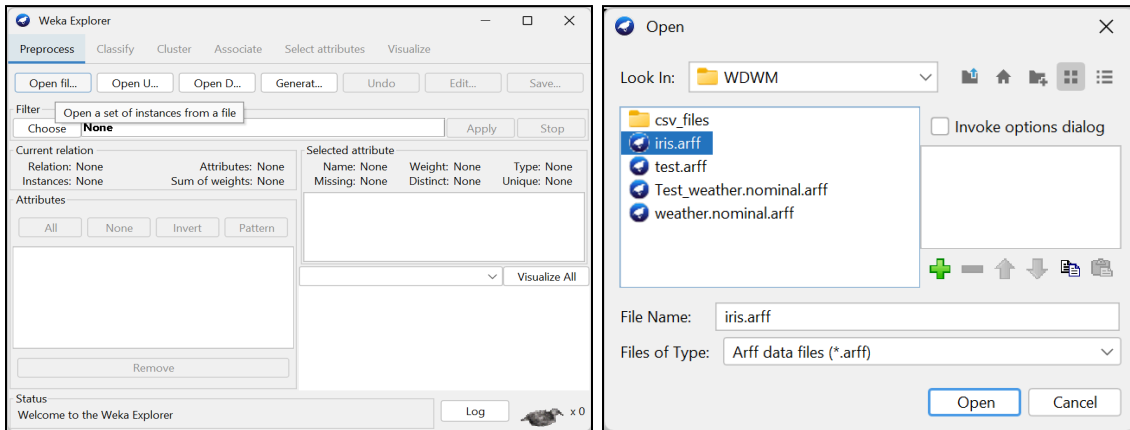
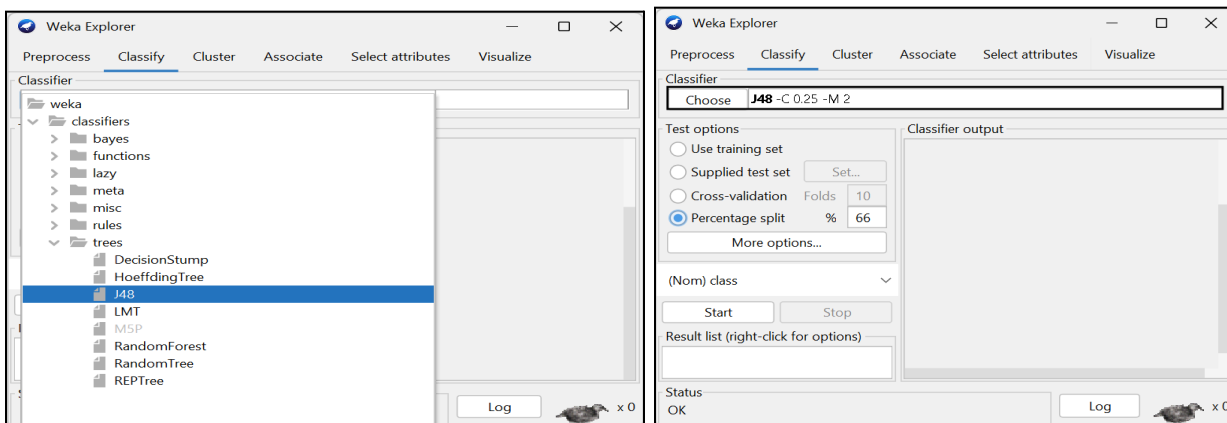


Practical 08: Implementing Classification in Weka [Decision Tree]

Step 01: Open Weka → Explorer → Open file → Choose 'iris.arff' file → after that move to the **Classify** Tab.



Step 02: In the Classify tab follow the path choose → trees → J48 now you will be able to see J48 in the choose textbox. Click on it, set **saveInstanceData** to **true**, and confirm. Then, select **Percentage split** under **Test options** and set it to **66%**, and click **Start**.



Step 03: The Classifier output box displays classification results, including accuracy statistics, as shown in the figure.

Classifier output		
28	2:Iris-versicolor 2:Iris-versicolor	0.968
29	1:Iris-setosa 1:Iris-setosa	1
30	1:Iris-setosa 1:Iris-setosa	1
31	2:Iris-versicolor 2:Iris-versicolor	0.968
32	3:Iris-virginica 3:Iris-virginica	0.968
33	2:Iris-versicolor 2:Iris-versicolor	0.968
34	1:Iris-setosa 1:Iris-setosa	1
35	1:Iris-setosa 1:Iris-setosa	1
36	3:Iris-virginica 3:Iris-virginica	0.968
37	1:Iris-setosa 1:Iris-setosa	1
38	1:Iris-setosa 1:Iris-setosa	1

TP Rate	FP Rate	Precision	Recall	F-Measure	MCC
1.000	0.000	1.000	1.000	1.000	1.000
1.000	0.063	0.905	1.000	0.950	0.921
0.882	0.000	1.000	0.882	0.938	0.913
Weighted Avg.	0.961	0.023	0.965	0.961	0.942

```
=== Confusion Matrix ===
  a  b  c  <-- classified as
15  0  0 | a = Iris-setosa
 0 19  0 | b = Iris-versicolor
 0  2 15 | c = Iris-virginica
```

Step 04: Right-click on the highlighted Result list entry, then select Visualize tree to view the decision tree for the Fisher's Iris dataset. The tree is easy to read

Percentage split % 66

More options...

(Nom) class

Start Stop

Result list (right-click for options)

09:10:50 - trees.J48

- View in main window
- View in separate window
- Save result buffer
- Delete result buffer(s)
- Load model
- Save model
- Re-evaluate model on current test set
- Re-apply this model's configuration
- Visualize classifier errors
- Visualize tree**
- Visualize margin curve

Weka Classifier Tree Visualizer: 09:10:50 - trees.J48 (iris)

Tree View

```

graph TD
    A[petalwidth] -- "<= 0.6" --> B[Iris-setosa 50.0]
    A -- "> 0.6" --> C[petalwidth]
    C -- "<= 1.7" --> D[petallength]
    C -- "> 1.7" --> E[Iris-virginica 46.0/1.0]
    D -- "<= 4.9" --> F[Iris-versicolor 48.0/1.0]
    D -- "> 4.9" --> G[petalwidth]
    G -- "<= 1.5" --> H[Iris-virginica 3.0]
    G -- "> 1.5" --> I[Iris-versicolor 3.0/1.0]
    
```