

ASSIGNMENT 10

24/04/24

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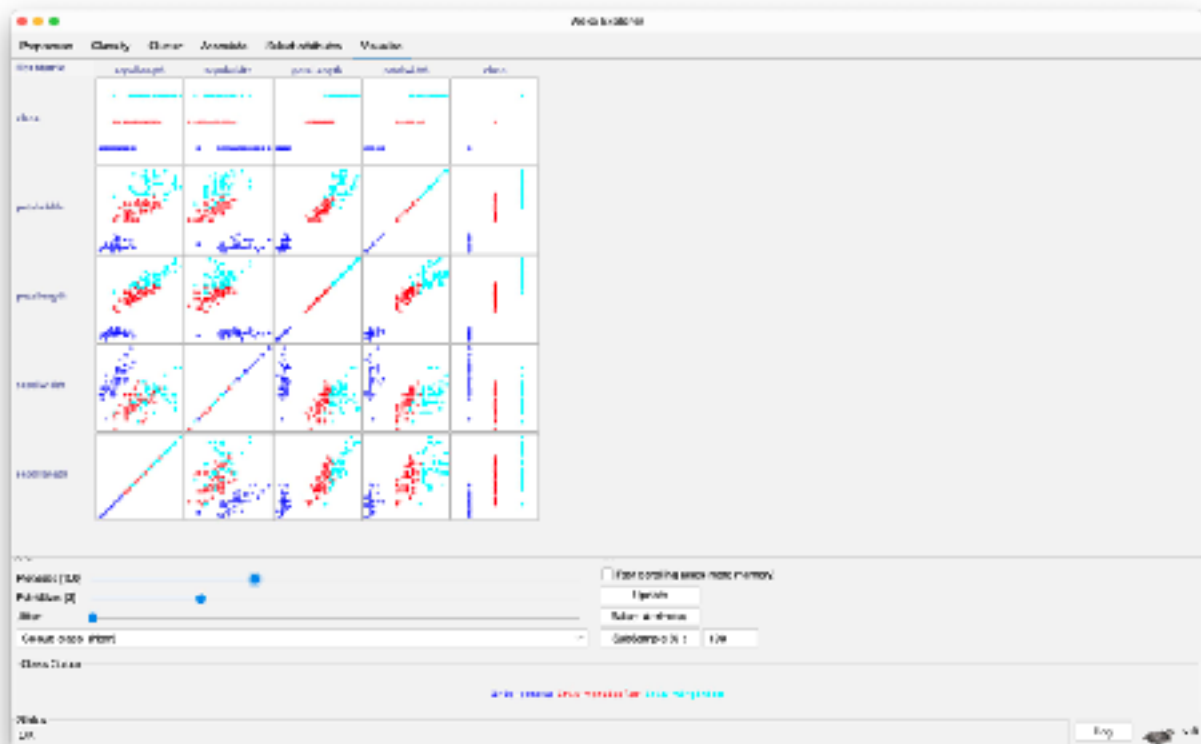
REGNO : 20214272

GROUP : CS6D

TOPIC : DATA MINING LAB

CODE : CS-16202

Objective 1 :



Objective 2 :

```
import pandas as pd
from weka.classifiers import Classifier
from weka.core.converters import Loader
from weka.classifiers import Evaluation
from weka.core.classes import Random

# Load dataset
loader =
Loader(classname="weka.core.converters.ArffLoader")
data = loader.load_file("iris.arff")
data.class_is_last()
# Preprocess the data (not necessary for this dataset)
# Implement J48 algorithm
cls =
Classifier(classname="weka.classifiers.trees.J48")
cls.build_classifier(data)
# Verify the result
evaluation = Evaluation(data)
evaluation.crossvalidate_model(cls, data, 10,
Random(1))
# Print classification results
print("Classification Results:")
print(evaluation.summary())
# Print entropy values and Kappa statistic
print("Entropy:", evaluation.mean_entropy())
print("Kappa:", evaluation.kappa())
# Extract if-then rules
print("If-then rules:")
print(cls)
```

Correctly Classified Instances	7	50	%
Incorrectly Classified Instances	7	50	%
Kappa statistic	-0.0426		
Mean absolute error	0.4167		
Root mean squared error	0.5984		
Relative absolute error	87.5	%	
Root relative squared error	121.2987	%	
Total Number of Instances	14		