

Machine Learning – Classification

Decision Tree - Algorithm

Q) What is the Percentage of correct classification of both classes (Purchased and Not Purchased) to the total test set input?

A) The Accuracy value of the classification is **0.90** (or) **90%**

Q) What is the Percentage of correct classification of Purchased to the total test set input?

A) The Recall value of the Purchased class is **0.86** (or) **86%**

Q) What is the Percentage of correct classification of Not Purchased to the total test set input?

A) The Recall value of the Not Purchased class is **0.91** (or) **91%**

Q) What is the Percentage of correctly classified and wrongly classified of Purchased class in the test set?

A) The Precision value of the Purchased class is **0.79** (or) **79%**

Q) What is the Percentage of correctly classified and wrongly classified of Not Purchased class in the test set?

A) The Precision value of the Purchased class is **0.95** (or) **95%**

Q) What is the Overall performance of the Purchased class?

A) The F1 Score is **0.83** (or) **83%**

Q) What is the Overall performance of the Not Purchased class?

A) The F1 Score is **0.93** (or) **93%**

Q) What is the Average performance of all the Evaluation Metrics of both classes?

A) The Macro Average values are below:

- Precision = **0.87** (or) **87%**
- Recall = **0.89** (or) **89%**
- F1 Score = **0.88** (or) **88%**

Q) What is the Sum of Proportion rate of both classes?

A) The Weighted Average values are below:

- Precision = **0.90** (or) **90%**
- Recall = **0.90** (or) **90%**
- F1 Score = **0.90** (or) **90%**

Report:

	precision	recall	f1-score	support
0	0.95	0.91	0.93	58
1	0.79	0.86	0.83	22
accuracy			0.90	80
macro avg	0.87	0.89	0.88	80
weighted avg	0.90	0.90	0.90	80

Random Forest - Algorithm

Q) What is the Percentage of correct classification of both classes (Purchased and Not Purchased) to the total test set input?

A) The Accuracy value of the classification is **0.94** (or) **94%**

Q) What is the Percentage of correct classification of Purchased to the total test set input?

A) The Recall value of the Purchased class is **0.95** (or) **95%**

Q) What is the Percentage of correct classification of Not Purchased to the total test set input?

A) The Recall value of the Not Purchased class is **0.93** (or) **93%**

Q) What is the Percentage of correctly classified and wrongly classified of Purchased class in the test set?

A) The Precision value of the Purchased class is **0.84** (or) **84%**

Q) What is the Percentage of correctly classified and wrongly classified of Not Purchased class in the test set?

A) The Precision value of the Purchased class is **0.98** (or) **98%**

Q) What is the Overall performance of the Purchased class?

A) The F1 Score is **0.89** (or) **89%**

Q) What is the Overall performance of the Not Purchased class?

A) The F1 Score is **0.96** (or) **96%**

Q) What is the Average performance of all the Evaluation Metrics of both classes?

A) The Macro Average values are below:

- Precision = **0.91** (or) **91%**
- Recall = **0.94** (or) **94%**
- F1 Score = **0.92** (or) **92%**

Q) What is the Sum of Proportion rate of both classes?

A) The Weighted Average values are below:

- Precision = **0.94** (or) **94%**
- Recall = **0.94** (or) **94%**
- F1 Score = **0.94** (or) **94%**

Report:

	precision	recall	f1-score	support
0	0.98	0.93	0.96	58
1	0.84	0.95	0.89	22
accuracy			0.94	80
macro avg	0.91	0.94	0.92	80
weighted avg	0.94	0.94	0.94	80

Support Vector Machine

Q) What is the Percentage of correct classification of both classes (Purchased and Not Purchased) to the total test set input?

A) The Accuracy value of the classification is **0.72** (or) **72%**

Q) What is the Percentage of correct classification of Purchased to the total test set input?

A) The Recall value of the Purchased class is **0.00** (or) **0%**

Q) What is the Percentage of correct classification of Not Purchased to the total test set input?

A) The Recall value of the Not Purchased class is **1.00** (or) **100%**

Q) What is the Percentage of correctly classified and wrongly classified of Purchased class in the test set?

A) The Precision value of the Purchased class is **0.00** (or) **0%**

Q) What is the Percentage of correctly classified and wrongly classified of Not Purchased class in the test set?

A) The Precision value of the Purchased class is **1.00** (or) **100%**

Q) What is the Overall performance of the Purchased class?

A) The F1 Score is **0.00** (or) **0%**

Q) What is the Overall performance of the Not Purchased class?

A) The F1 Score is **0.84** (or) **84%**

Q) What is the Average performance of all the Evaluation Metrics of both classes?

A) The Macro Average values are below:

- Precision = **0.36** (or) **36%**
- Recall = **0.50** (or) **50%**
- F1 Score = **0.42** (or) **42%**

Q) What is the Sum of Proportion rate of both classes?

A) The Weighted Average values are below:

- Precision = **0.53** (or) **53%**
- Recall = **0.72** (or) **72%**
- F1 Score = **0.61** (or) **61%**

Report:

	precision	recall	f1-score	support
0	0.72	1.00	0.84	58
1	0.00	0.00	0.00	22
accuracy			0.72	80
macro avg	0.36	0.50	0.42	80
weighted avg	0.53	0.72	0.61	80