Thank you. Your test submitted.

You have cleared this assessment.

Obtained Percentage	Obtained Marks
66.67 %	10 / 15

Best Attempt Score:66.67 % on 12-03-2025

Why do we prefer information gain over accuracy when splitting?

1. Decision Tree is prone to overfit and accuracy doesn't help to generalize
2. Information gain is more stable as compared to accuracy
3. Information gain chooses more impactful features closer to root
4. All of these

Warning

This operation is disabled

Ok

- ○ Only 1
- ○ 1 and 3
- ○ 2 and 3
- ◉ 4

Which of the following is true about "max_depth" hyperparameter in Decision Trees?

1. Lower is the better parameter in case of same validation accuracy
2. Higher is the better parameter in case of same validation accuracy
3. Increase the value of max_depth may overfit the data
4. Increase the value of max_depth may underfi

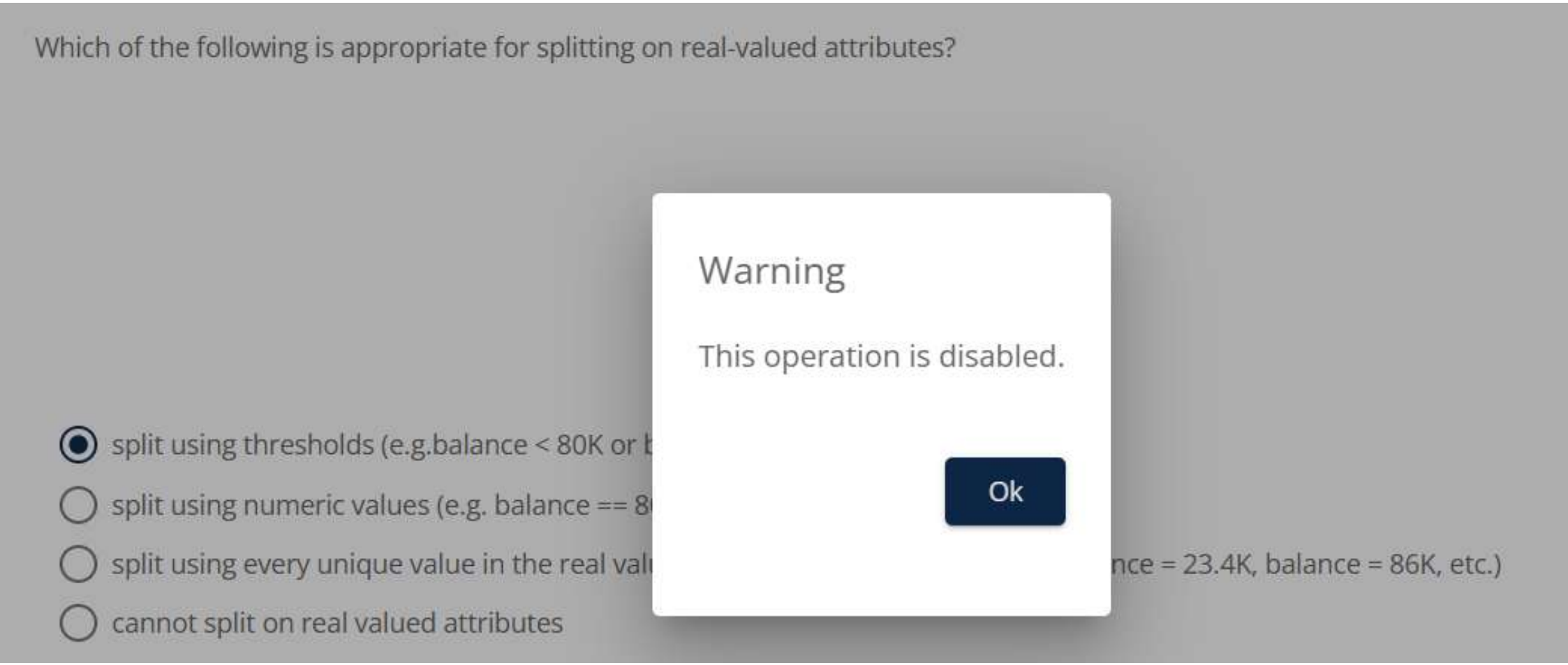
Warning

This operation is disabled.

Ok

- (•) 1 and 3
- ( ) 1 and 4
- ( ) 2 and 3
- ( ) 2 and 4

Which of the following is appropriate for splitting on real-valued attributes?



Which of the following are the advantage/s of Decision Trees?

- ○ Possible Scenarios can be added
- ○ Use a white box model, If given result is prov
- ○ Worst, best and expected values can be dete
- ◉ All of the mentioned

Warning

This operation is di

When we remove sub-nodes of a decision node, it is this called?

- ○ Splitting
- ○ Shooting
- ○ Decision Making
- ◉ Pruning

Warning

This operation

A pure (homogeneous) subset contains

- (●) same values for the target attribute
- ( ) same value for all predictor attribute
- ( ) same value for both predictor and target att

Warni

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The nodes in a decision tree that cannot be splitted further are called?

- ○ Decision nodes
- ◉ Leaf nodes
- ○ Unsplit nodes
- ○ Terminal Nodes

Warning

This operation is

If we are learning a decision tree and are at a node in which all the instances have the same class label or the target value, then we should

- find the best attribute to split on
- create a leaf node that predicts the target va
- terminate recursions on all branches and re
- go back to the parent node and select a diffe that the target values are not all the same at this node

Warning

This operation is disabled.

Ok

How to select best hyperparameters in tree based models?

- ○ Measure performance over training data
- ◉ Measure performance over validation data
- ○ Both of these
- ○ None of these

Warn

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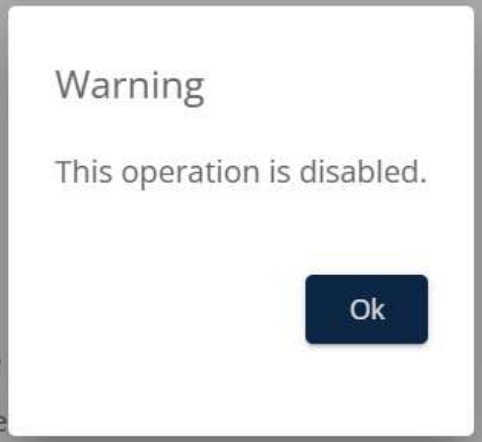
Consider a dataset Z. A decision tree is learned on this dataset. Consider the split learned at the root of the decision tree. Which of the following is true if one of the data points in the dataset is removed and the tree is retrained?



- ○ the split at the root will be different
- ○ the split at the root will be exactly the same
- ◉ the split could be the same or could be diffe
- ○ the split cannot be done as the dataset is incomplete

In which of the following scenario a gain ratio is preferred over Information Gain?

- (●) When a categorical variable has very large n
- ( ) When a categorical variable has very small n
- ( ) Number of categories is the not the reason
- ( ) None of these

Warning

This operation is disabled.

Ok

Which of the following is/are true about Decision Tree methods?

1. It can be used for classification task
2. It is used for classification whereas not for regression task
3. It is used for regression whereas not for classification task
4. It can be used for regression task

Warning

This operation is disabled.

Ok

- (●) 1 and 4
- ( ) 2
- ( ) 3
- ( ) Only 1

If the predicted value of a target attribute at a given leaf node is "yes", then the probability of the number of instances belonging to "yes" in that leaf node

- (●) is equal to 1
- ( ) is higher than the probability of instances n
- ( ) could be equal or higher than the probabilit yes"

Warning

This operation is disabled.

Ok

Consider the dataset as shown below:

pred1	pred2	pred3	target
A	A	A	plus
B	A	B	minus
A	B	A	minus
B	B	A	plus

If we train a decision tree with this data, which attr ng the dataset at the root?

- ○ pred1
- ○ pred3
- ◉ pred2
- ○ none of the predictors can be directly used

Consider an attribute purchases_mobile containing 5 instances of "yes" and 5 instances of "no". What is the Shannon entropy of this attribute?

- ○ 0
- ◉ 1
- ○ 0.5
- ○ Cannot be determined

Warning

This operation is disabled.

Ok