CS7641 ML Practice Quiz  
Module RL 3: Feature Selection

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# Question 1

What are the primary reasons for performing feature selection in machine learning?

A. To improve model interpretability.

B. To reduce computational complexity.

C. To increase the accuracy of the model.

D. To handle the curse of dimensionality.

# Question 2

In the context of feature selection, what is the difference between filtering and wrapping methods?

A. Filtering methods are faster but may ignore the learning bias.

B. Wrapping methods take into account the model bias and are more thorough.

C. Filtering methods rely on external criteria for feature evaluation.

D. Wrapping methods ignore the learning problem.

# Question 3

Which of the following are criteria that can be used in filtering methods for feature selection?

A. Information gain.

B. Variance.

C. Entropy.

D. Model accuracy.

# Question 4

What is the significance of "strongly relevant" and "weakly relevant" features in feature selection?

A. Strongly relevant features degrade the Bayes Optimal Classifier if removed.

B. Weakly relevant features are indispensable for the classifier.

C. Strongly relevant features are always necessary for model accuracy.

D. Weakly relevant features improve the classifier only in the presence of certain other features.

# Question 5

Which of the following statements are true regarding relevance and usefulness of features in feature selection?

A. Relevance is about the effect on the Bayes Optimal Classifier.

B. Usefulness is about minimizing error for a specific model.

C. A feature can be irrelevant but still be useful for certain algorithms.

D. Usefulness of a feature is determined by its information conten

# Answer key

1. A, B, D  
2. A, B, C  
3. A, B, C  
4. A, D  
5. A, B, C