

- Q1. Describe the decision tree classifier algorithm and how it works to make predictions.
- Q2. Provide a step-by-step explanation of the mathematical intuition behind decision tree classification.
- Q3. Explain how a decision tree classifier can be used to solve a binary classification problem.
- Q4. Discuss the geometric intuition behind decision tree classification and how it can be used to make predictions.
- Q5. Define the confusion matrix and describe how it can be used to evaluate the performance of a classification model.
- Q6. Provide an example of a confusion matrix and explain how precision, recall, and F1 score can be calculated from it.
- Q7. Discuss the importance of choosing an appropriate evaluation metric for a classification problem and explain how this can be done.
- Q8. Provide an example of a classification problem where precision is the most important metric, and explain why.
- Q9. Provide an example of a classification problem where recall is the most important metric and explain why.

Note: Generate your assignment as a Python notebook file, upload it to Moodle, and share the GitHub link. Ensure the repository is public, and provide the GitHub repository link through your dashboard.