## Question 1

| Criteria | Points |
|---|---|
| **Total Points** | **40** |
| | |
| **Decision Tree** | **30** |
| showed work and reasoning | 15 |
| selected feature with lowest remainder or highest info gain for each node | 3 |
| computed remainder / info gain correctly | 3 |
| for each feature added, there is a branch for each possible value of that feature | 3 |
| terminated recursion / added leaf node only at base case | 3 |
| selected correct label for leaf node depending on which base case was encountered | 3 |
| **Accuracy** | **10** |
| brief discussion | 5 |
| correct accuracy | 5 |

## Question 2

| Criteria | Points |
|---|---|
| **Total Points** | **10** |
| | |
| **KNN** | **10** |
| showed work and reasoning | 5 |
| correct classification | 5 |

## Question 3

| Criteria | Points |
|---|---|
| **Total Points** | **100** |
| | |
| **Program** | **30** |
| submitted program that implements ID3 | 25 |
| code is commented | 5 |
| **Testbeds** | **25** |
| uses whatever trees are built (even if trees are wrong) to predict examples correctly | 7 |
| testbed 1 | 5 |
| testbed 2 | 5 |
| testbed 3 | 4 |
| testbed 4 | 2 |
| testbed 1 - flipped test | 2 |
| **Wine Evaluation** | **45** |
| reasonable tree obtained and printed | 15 |
| list of incorrectly classified test-set examples | 6 |
| fraction of test-set examples correctly (or incorrectly) classified | 6 |
| brief analysis of tree | 10 |
| discuss a false positive | 4 |
| discuss a false negative | 4 |