

# Assignment 6

## Decision Tree

Note: please submit the solution in PDF format.

Given three attributes, A, B, C and one Boolean outcome Z as the class

| A | B | C | Z     |
|---|---|---|-------|
| 0 | 0 | 0 | True  |
| 1 | 1 | 0 | True  |
| 0 | 1 | 0 | True  |
| 1 | 0 | 1 | True  |
| 0 | 0 | 1 | False |
| 1 | 1 | 2 | False |
| 0 | 1 | 2 | False |
| 1 | 0 | 2 | False |

### Question

- WITHOUT** calculation, which attribute would information gain choose as the root of the tree? And why? (2 points)
- Draw the decision tree. (2 points)
- Classify the examples below as “True” or “False” using your decision tree. (1 points)

Note: if your decision tree is wrong, then your answers for (c) and (d) are **NOT** considered.

- What class is [A=0, B=0, C=2]? (just answer “True” or “False”)
- What class is [A=1, B=1, C=1]? (just answer “True” or “False”)