Question 1:

Check the code in the file “dTree.py”

1. Overall accuracy : 9.31046186784

Classification accuracy:

4.

|  |  |  |
| --- | --- | --- |
| **No. Leaves** | **Prune by Information Gain** | **Prune by validation set accuracy** |
| **10** | 9.25563301219 | 9.25563301219 |
| **20** | 9.25824391008 | 9.21385864599 |
| **30** | 9.21646954388 | 9.25824391008 |
| **100** | 9.37051251926 | 9.38878880447 |
| **200** | 9.40706508968 | 9.47755933265 |

Question 2:

Check the code in file “beliefProp.py”

P(fuel line = clogged | E) = 0.3023491911419247

P(fuel pump = bad | E) = 0.0

P(fuel line = clogged | E) = 0.3023491911419247

P(fuel pump = bad | E) = 0.0

P(battery = bad | E) = 0.9925304712632559