**Assignment 2 Bonus – Report**

**( Hanvitha Gavini and Prathyusha Kanmanth Reddy )**

For data\_set\_1:

Tree Parameters

|  |  |  |
| --- | --- | --- |
|  | **Average Depth** | **Number of Nodes** |
| **Tree constructed using ID3** | 4.1316 | 281 |
| **Tree Constructed using Random Attribute selection** | 4.942 | 1001 |

Accuracy on test data

|  |  |  |
| --- | --- | --- |
| Run # | Accuracy of the tree Constructed using ID3 | Accuracy of the tree constructed using random attribute selection |
| 1 | 74.8% | 63.0% |
| 2 | 74.8% | 61.8% |
| 3 | 74.8% | 62.1% |
| 4 | 74.8% | 63.85% |
| 5 | 74.8% | 61.35% |

For data\_set\_2:

Tree Parameters

|  |  |  |
| --- | --- | --- |
|  | **Average Depth** | **Number of Nodes** |
| **Tree constructed using ID3** | 4.1702 | 282 |
| **Tree Constructed using Random Attribute selection** | 5.035 | 1072 |

Accuracy on test data

|  |  |  |
| --- | --- | --- |
| Run # | Accuracy of the tree Constructed using ID3 | Accuracy of the tree constructed using random attribute selection |
| 0 | 72.66% | 62.0% |
| 1 | 72.66% | 62.16% |
| 2 | 72.66% | 66.16% |
| 3 | 72.66% | 61.5% |
| 4 | 72.66% | 62.83% |