DECISION TREE IMPLEMENTATION:

Data Set 1:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| L | k | Accuracy of the Tree (Entropy) | | Accuracy of the Tree (Impurity Gain) | |
| Before Pruning | After Pruning | Before Pruning | After Pruning |
| 2 | 5 | 78.85 | 75.85 | 78 | 78 |
| 6 | 10 | 78.85 | 76.5 | 78 | 78.55 |
| 10 | 15 | 78.85 | 76.55 | 78 | 78.15 |
| 14 | 20 | 78.85 | 76.95 | 78 | 78.80 |
| 5 | 5 | 78.85 | 76.1 | 78 | 78.35 |
| 10 | 10 | 78.85 | 76.05 | 78 | 78.4 |
| 17 | 15 | 78.85 | 77.85 | 78 | 79.05 |
| 22 | 20 | 78.85 | 76.4 | 78 | 77.65 |
| 28 | 25 | 78.85 | 76.7 | 78 | 78.25 |
| 30 | 28 | 78.85 | 76.8 | 78 | 79 |

Data Set 2:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| L | k | Accuracy of the Tree (Entropy) | | Accuracy of the Tree (Impurity Gain) | |
| Before Pruning | After Pruning | Before Pruning | After Pruning |
| 2 | 5 | 72.33 | 72.33 | 69 | 69 |
| 6 | 10 |  | 73.33 | 69 | 68.833 |
| 10 | 15 |  | 74.5 | 69 | 69.66 |
| 14 | 20 |  | 73.83 | 69 | 67.83 |
| 5 | 5 |  | 72.33 | 69 | 67.83 |
| 10 | 10 |  | 72.66 | 69 | 69.5 |
| 17 | 15 |  | 73.5 | 69 | 69.66 |
| 22 | 20 |  | 73.83 | 69 | 69.33 |
| 28 | 25 |  | 75.66 | 69 | 69.5 |
| 30 | 28 |  | 74.66 | 69 | 69.5 |