Assignment

Day III

Clustering and Classification

1. For the cars dataset in R apply linear regression to find intercept, coefficient and construct prediction equation.
2. Apply multiple linear regression on iris dataset considering all attributes and find prediction equation.
3. Apply ID3 to build decision tree for

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Person | Hair Length | Weight | Age | Class |
| Homer | 0” | 250 | 36 | **M** |
| Marge | 10” | 150 | 34 | **F** |
| Bart | 2” | 90 | 10 | **M** |
| Lisa | 6” | 78 | 8 | **F** |
| Maggie | 4” | 20 | 1 | **F** |
| Abe | 1” | 170 | 70 | **M** |
| Selma | 8” | 160 | 41 | **F** |
| Otto | 10” | 180 | 38 | **M** |
| Krusty | 6” | 200 | 45 | **M** |

Also calculate information gain for every attribute.

1. Build the model using ID3 and calculate the accuracy for

|  |  |  |  |
| --- | --- | --- | --- |
| **Temperature** | **Precipitation** | **Court-busy** | **Play-tennis** |
| Low | Clear | No | Yes |
| Low | Rain | No | No |
| Med | Clear | Yes | No |
| High | Clear | No | Yes |