|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| PATIENT ID | CHEST PAIN | MALE | SMOKES | EXERCISES | HEART ATTACK |
| 1 | yes | yes | no | yes | yes |
| 2 | yes | yes | yes | no | yes |
| 3 | no | no | yes | no | yes |
| 4 | no | yes | no | yes | no |
| 5 | yes | no | yes | yes | yes |
| 6 | no | yes | yes | yes | no |
| P(yes) | 0.500 | 0.667 | 0.667 | 0.667 | 0.667 |
| P(no) | 0.500 | 0.333 | 0.333 | 0.333 | 0.333 |
| P(yes & HA = yes) | 1.000 | 0.500 | 0.750 | 0.500 |  |
| P(yes & HA = no) | 0.000 | 0.500 | 0.250 | 0.500 |  |
| P(no & HA = yes) | 0.333 | 1.000 | 0.500 | 1.000 |  |
| P(no & HA = no) | 0.667 | 0.000 | 0.500 | 0.000 |  |
| Gini Index (yes) = | 0.000 | 0.500 | 0.375 | 0.500 |  |
| Gini Index (no) = | 0.444 | 0.000 | 0.500 | 0.000 |  |
| Weighted sum of the Gini Indices = | 0.222 | 0.333 | 0.417 | 0.333 |  |

Gini = 0.2222 (Weighted sum of Chest Pain)

#Y(No = 0, Yes = 1) = (2, 4)

Gini = 0.444 (For )

Gini = 0.0 (For new split )

#Y(No = 0, Yes = 1) = (2, 1)

Gini = 0.0 (for )

(No more split)

#Y(No = 0, Yes = 1) = (0, 3)