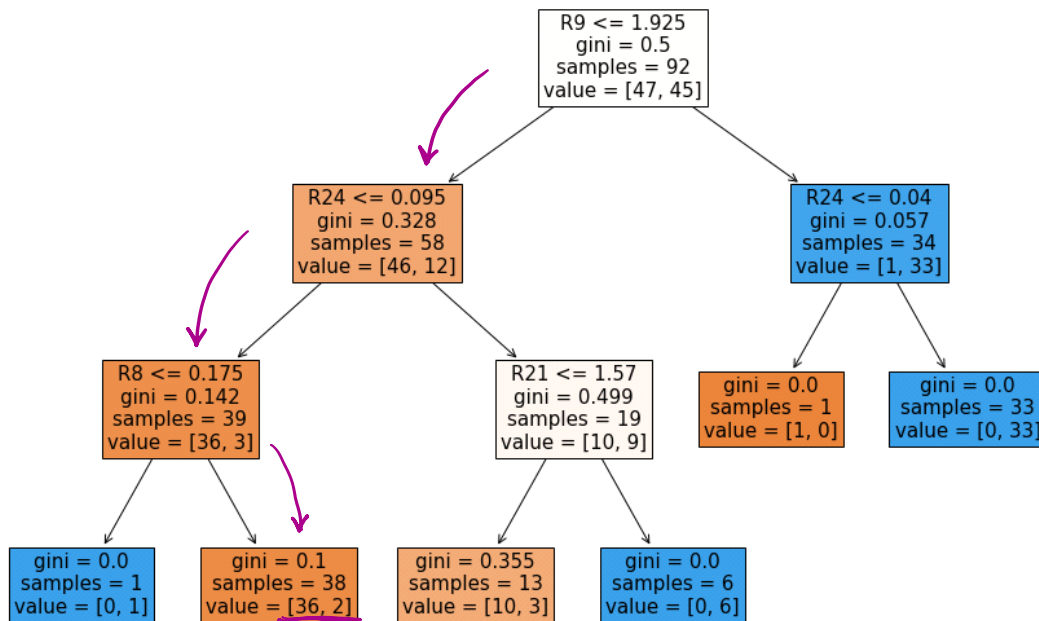


Probability Estimation

Thursday, June 29, 2023 5:16 PM



pred = 0 1

$$P[0] = \frac{36}{38} \quad P[1] = \frac{2}{38}$$

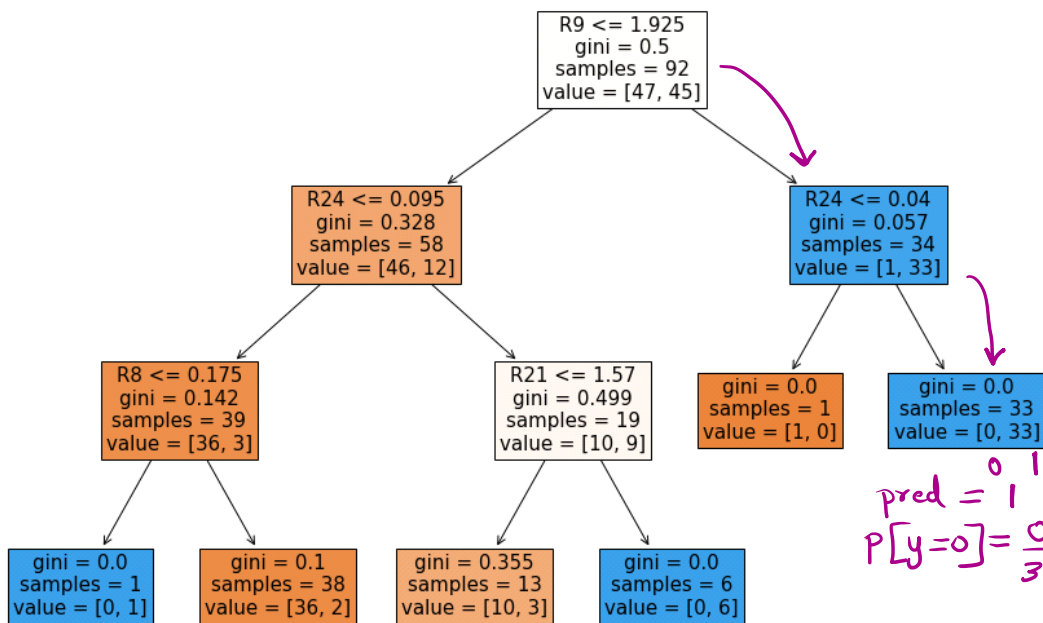
0.9473684210526315

0.05263157894736842

Predicted Probabilities

```

In [97]: dtc.predict_proba(X_test)
Out[97]: P[y=0] P[y=1]
array([[0.94736842, 0.05263158],
       [0.94736842, 0.05263158],
       [0.94736842, 0.05263158],
       [0.94736842, 0.05263158],
       [0.          , 1.          ],
       [0.          , 1.          ],
       [0.94736842, 0.05263158],
       [0.          , 1.          ],
       [0.94736842, 0.05263158],
       [0.          , 1.          ],
       [0.          , 1.          ]])
  
```



```

In [100]: nb.predict(X_test)
Out[100]:
array([0, 0, 1, 1, 0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 1, 0, 1, 1, 0, 1, 0, 0,
       0, 0, 0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 1], dtype=int64)

In [101]: nb.predict_proba(X_test)
Out[101]:  $P(y=0)$   $P(y=1)$ 
array([[9.99977940e-001, 2.20601420e-005],
       [9.90789108e-001, 9.21089206e-003],
       [2.32438774e-002, 9.76756123e-001],
       [3.02827814e-002, 9.69717219e-001],
       [9.99997200e-001, 2.80039369e-006],
       [6.78116258e-010, 9.99999999e-001],
       [2.08929954e-006, 9.9997911e-001],

```

