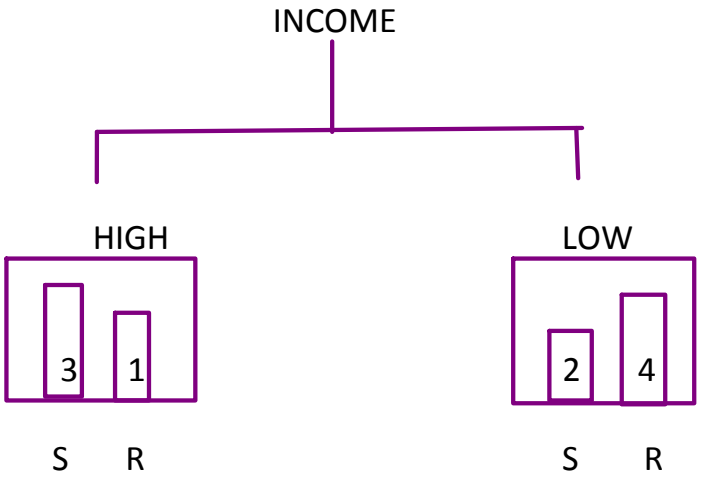
RESIDUAL MEAN DEVIANCE:



Predicted response: S R

Let us calculate the Deviance for every node.

$$\text{Deviance} = -2 \sum_{m} \sum_{k} n_{mk} \log P_{mk}$$

High : Deviance = -2 [3 log 3/4 + 1 log 1/4]
Low : Deviance = -2 [2 log 2/6 + 4 log 4/6]

For every node this deviance is calculated such that calculate the average of all the deviances in a tree.

$$\text{Residual Mean Deviance} = \frac{\text{Total Deviances}}{n - |To|}$$

'n' is the number of observations in the data and To is the total number of leaves