

Applicant ID	Age Group	Income Group	Education Level	Defaulted
1	20-29	<20000	High School	No
2	30-39	20001-39999	Bachelor's	No
3	20-29	20001-39999	Bachelor's	Yes
4	30-39	60000-80000	Master's	No
5	40-49	<20000	High School	No
6	30-39	40000-59999	Bachelor's	No
7	20-29	40000-59999	Master's	Yes
8	40-49	60000-80000	Bachelor's	No
9	20-29	<20000	High School	Yes
10	30-39	20001-39999	Master's	Yes

$$P(\text{No}) = \frac{6}{10} = 0.6$$

$$P(\text{yes}) = \frac{4}{10} = 0.4$$

$$P(\text{age} = 31, \text{Income} = 55, \text{edu} = \text{bachelor's} | \text{No})$$

$$= P\left(\frac{4}{6} | \text{No}\right) \times P\left(\frac{1}{6} | \text{No}\right) \times P\left(\frac{3}{6} | \text{No}\right)$$

$$= 0.667 \times 0.167 \times 0.5 \times 0.055$$

$$\text{No.} = 0.033$$

$$P\left(\frac{1}{4} | \text{yes}\right) \times P\left(\frac{1}{4} | \text{yes}\right) \times P\left(\frac{1}{4} | \text{yes}\right)$$

$$= 0.25 \times 0.25 \times 0.25$$

$$= 0.015$$

$$\text{yes} = 0.015 \times 0.4 = 0.006$$