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BD Assignment Solution.

$P(-) = \frac{3}{5}$ & $P(+) = \frac{2}{5}$.

$P(\text{predictable}|-) = \frac{1+1}{14+20} = \frac{2}{34} = \frac{1}{17}$

$P(\text{with}|-) = \frac{0+1}{34} = \frac{1}{34}$.

$P(\text{no}|-) = \frac{2}{34} = \frac{1}{17}$.

$P(\text{Predictable}|+) = \frac{1}{9+24} = \frac{1}{33}$.

$P(\text{with}|+) = \frac{1}{33}$.

$P(\text{no}|+) = \frac{1}{33}$

$P(\text{fun}|+) = \frac{2}{33}$.

Choosing the category

→ $P(+|\text{test}) = P(\text{predictable}|+) \times P(\text{with}|+) \cdot P(\text{no}|+) \cdot P(\text{fun}|+) \cdot P(+)$

$= \frac{1}{33} \cdot \frac{1}{33} \cdot \frac{1}{33} \cdot \frac{2}{33} \cdot \frac{2}{5}$.

$= \frac{4}{5929605} = 6.74e^{-7} \approx 0.0000007$

→ $P(-|\text{test}) = \frac{1}{17} \cdot \frac{1}{34} \cdot \frac{1}{17} \cdot \frac{1}{34} \cdot \frac{3}{5} = \frac{3}{1670420}$

$= 1.79e^{-6} \approx 0.000002$

∴ category of test will be '−'.