Question: The table shows the pathological test results for three individuals.

Name	Gender	Fever	Cough	Test-1	Test-2	Test-3	Test-4
Jack	M	Y	N	P	N	N	A
Mary	F	Y	N	P	A	P	N
Jim	M	Y	P	N	N	N	A

Calculate Jaccard coefficient for the following pairs:

- (Jack, Mary)
- (Jack, Jim)
- (Jim, Mary)

Solution:

1. Convert asymmetric variables to binary values, and re-write the table
    a. Gender - symmetric variable (same weight for male and female), therefore, not converted

Name	Gender	Fever	Cough	Test-1	Test-2	Test-3	Test-4
Jack	M	1	0	1	0	0	0
Mary	F	1	0	1	0	1	0
Jim	M	1	1	0	0	0	0

2. Let Y (yes) and P (positive) be 1; N (no) and A (assuming negative) be 0
3. Apply the below definition to each pair:

$$Jaccard = \frac{f_{01}+f_{10}}{f_{01}+f_{10}+f_{11}}$$

Final answers:

d(Jack, Mary) = (1 + 0) / (1 + 0 + 2) = 0.33

d(Jack, Jim) = (1 + 1) / (1 + 1 + 1) = 0.67

d(Jim, Mary) = (2 + 1) / (2 + 1 + 1) = 0.75