Jaccard Coefficient Calculations

The table shows the pathological test results for three individuals:

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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:

Converting the table with exception of gender since has symmetric binary attribute

	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**

Jaccard = (f01+f10) / (f01+f10+f11)

1. **(Jack, Mary)**

(f01 + f10) = 1 + 0 = 1

(f01+f10+f11) = 1 + 0 + 2 = 3

Jaccard coefficient = 1/3 = 0.33

2. **(Jack, Jim)**

(f01 + f10) = 1 + 1 = 2

(f01+f10+f11) = 1 + 1 + 1 = 3

Jaccard coefficient = 2/3 = 0.67

3. **(Jim, Mary)**

(f01 + f10) = 1 + 2 = 2

(f01+f10+f11) = 1 + 2 + 1 = 3

Jaccard coefficient = 2/3 = 0.75

Observation:

- Mary is more close to Jim than to Jack
- Jack is more close to Jim than to Mary