

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

First we have to convert the dependent variables to binary so we will change Y & P to 1 and N & A to 0

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

This can be done in python using numpy as seen below
The results show that there is:

Similarity between x and y is 0.6666666666666666

Similarity between x and z is 0.3333333333333333

Similarity between y and z is 0.25

```
import numpy as np

def jaccard_binary(x,y):
    intersection = np.logical_and(x, y)
    union = np.logical_or(x, y)
    similarity = intersection.sum() / float(union.sum())
    return similarity

# Define some binary vectors
x = [1,0,1,0,0,0]
y = [1,0,1,0,1,0]
z = [1,1,0,0,0,0]

# Find similarity among the vectors
simxy = jaccard_binary(x,y)
simxz = jaccard_binary(x,z)
simyz = jaccard_binary(z,y)

print(' Similarity between x and y is', simxy, '\n Similarity between x and z is ', simxz, '\n Similarity between y and z is ', simyz)
```

Similarity between x and y is 0.6666666666666666
Similarity between x and z is 0.3333333333333333
Similarity between y and z is 0.25