**NP.NONZERO**

Each element of the tuple contains one of the indices for each nonzero value. Therefore, the length of each tuple element is the number of nonzeros in the array.

From your example, the indices of the nonzeros are [0, 0], [1, 0], and [1, 1]. The first element of the tuple is the first index for each of the nonzero values: ([0, 1, 1]), and the second element of the tuple is the second index for each of the nonzero values: ([0, 0, 1]).

e.g. consider a two dimenstional array, b

**b = np.array([[3,0,0],[0,5,6]])**

**array([[3, 0, 0],**

**[0, 5, 6]])**

There are two non-zero elements, with indices 0,0 and 1,1 respectively.

**b\_y = np.nonzero(b)**

gives us

**array([0, 1, 1], dtype=int64), array([0, 1, 2], dtype=int64))**

The first tuple contains dim1-indices of all the non-zero elements. The second tuple contains dim2-indices of all the non-zero elements.

To get the indices of all elements together, we can do the following

**np.transpose(b\_y)**

**array([[0, 0],**

**[1, 1],**

**[1, 2]], dtype=int64)**