

I need to locate pore clusters

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Hello everyone,

Say there are x number of points on a 2D plane. We need to form a group using the points which are closer than a specified distance. The distance will be specified by the user. Typical timing expectations are 250 ms for 10000 points in LabVIEW .

Examples:

suppose if the distance specified as say 1.5.

Example 1

Consider there are 5 points, which are in the specified location in x, y plane. The locations are as follows,

Point 1 – 1,1

Point 2 – 2,2

Point 3 – 10,10

Point 4 – 11,11

Point 5 – 100,90

The distance between point 1 & 2 is 1.414, which is less than a user specified distance of 1.5 in the example. So Point 1 & 2 will form a group. Similarly 3,4 will form a group. 5 will be alone.

so the result will be a 2D array of,

1,2

3,4

5

Example 2

Point 1 – 1,1

Point 2 – 2,2

Point 3 – 3,3

Point 4 – 11,11

Point 5 – 100,90

Distance = 1.5

Result

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1,2,3
4
5

Note – 1,2,3 are formed as a group – Even though 1 & 3 are far than 1.5, but point 2 near to 1 & 3.

I need an algorithm to detect these type of clusters. Can anyone help me?

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