```
% labels the data in the "testing" group (based on nearest neighbors to a
 finalized set of centroids and
% centroid labels). Note that the finalized centroids should be designed
 through the use of the script
% cluster covid data.m

% Note - This script depends on cluster_covid_data.m to be run first.

close all

% Create the centroid labels based on the most common division in each
% cluster
centroid_labels = zeros(bestK,1);
for centroid = 1:bestK
    cluster = centroidIdx == centroid;
    centroid_labels(centroid) = mode(trainingCensus.DIVISION(cluster));
    disp("Centroid " + centroid + " assigned to division " +
 centroid_labels(centroid))
end

% Label the testing data:
transformedTestingCases = (A * testingCases')';

testing_labels = zeros(height(transformedTestingCases),
 width(transformedTestingCases));
for i = 1:height(transformedTestingCases)
    testCase = transformedTestingCases(i,:);

    [~, assignedCentroid] = min(pdist2(centroids,testCase, 'euclidean'));
    testing_labels(i,:) = centroid_labels(assignedCentroid);
end
```

```
Centroid 1 assigned to division 4
Centroid 2 assigned to division 6
Centroid 3 assigned to division 6
Centroid 4 assigned to division 1
Centroid 5 assigned to division 8
Centroid 6 assigned to division 3
Centroid 7 assigned to division 7
Centroid 8 assigned to division 7
Centroid 9 assigned to division 4
Centroid 10 assigned to division 9
Centroid 11 assigned to division 9
Centroid 12 assigned to division 6
Centroid 13 assigned to division 5
Centroid 14 assigned to division 3
Centroid 15 assigned to division 1
Centroid 16 assigned to division 4
Centroid 17 assigned to division 8
Centroid 18 assigned to division 4
Centroid 19 assigned to division 4
Centroid 20 assigned to division 7
```

```
Centroid 21 assigned to division 2
Centroid 22 assigned to division 4
Centroid 23 assigned to division 1
```

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