```
%==========================================================================
%==========================================================================
%PERMUTATION-BASED CLUSTERING ALGORITHM
%==========================================================================
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%==========================================================================
%LOADS UCI IONOSPHERE DATASET
%==========================================================================
%clears the memory and the command prompt, loads the dataset
clear
clc

file_path = '/Users/charlesdavi/Desktop/Datasets/UCI/iris.txt';
dataset = csvread(file_path);
num_rows = size(dataset,1);
N = size(dataset,2) - 1;
%==========================================================================
%NORMALIZE DATASET
%==========================================================================

[final_dataset final_weight_vector final_nearest_neighbors] = normalize_datasetBT(dataset,N);

dataset = final_dataset;

%==========================================================================
%GENERATE NON-MUTUALLY EXCLUSIVE CLUSTERS
%==========================================================================
for i = 1 : num_rows

 [prior_cluster prior_unique_vector] = permutation_based_optimize(i, dataset, N);

 cluster_array{i} = prior_cluster;

endfor
%==========================================================================
%TESTS ACCURACY
%==========================================================================
%clusters are guaranteed to be non-empty
for i = 1 : num_rows

 current_cluster = cluster_array{i};
 class_vector = current_cluster(:,N+1)

 actual_class = dataset(i,N+1);

 num_errors = sum(class_vector != actual_class);
 num_entries = size(class_vector,1);

 accuracy_vector(i) = 1 - num_errors / num_entries;

endfor

mean(accuracy_vector)
```