```
%==============================
%GENERATES DATASET
%==============================

%Declarations

num_points = 100000;
num_sequences = 50;
num_observations = 15;

%DECLARES STATIONARY GAS DATASET----------

initial_boundary = 1;

for i = 1 : num_sequences

  boundary = initial_boundary;

  for j = 1 : num_observations

    temp_item = rand(num_points,4)*boundary;

    temp_item(:,4) = j;

    dataset{i,j} = temp_item;

  endfor

endfor

%==============================
%FLATTEN DATASET
%==============================

counter = 1;

for i = 1 : num_sequences

  for j = 1 : num_observations

    dataset_FLAT{counter} = dataset{i,j};
    counter = counter + 1;

  endfor

endfor
```

```
%==============================
%CLUSTER DATASET
%==============================

tic;[final_data_categories_array final_delta] =
optimize_categories_MASS(dataset_FLAT);toc

%==============================
%TEST DATASET
%==============================

num_categories = size(final_data_categories_array,2);

total_entropy = 0;
total_dispersion = 0;

for i = 1 : num_categories

  temp_cluster = final_data_categories_array{i};

  temp_cluster = mod(temp_cluster,num_observations);

  indeces = find(temp_cluster == 0);
  temp_cluster(indeces) = num_observations;

  total_entropy = total_entropy + entropy(temp_cluster)
  total_dispersion = total_dispersion + std(temp_cluster)

endfor

STAT_avg_entropy = total_entropy / num_categories
STAT_avg_dispersion = total_dispersion / num_categories
```