Student Name : ..... Roll No.: .....

Experiment No. : ..... Date : 7

Experiment :- 5

- **Description :-** K-means algorithm aims to partition n observation into "k clusters" in which each observation belongs to cluster with nearest mean, serving as a prototype of cluster. The result in partitioning of data into various cells.

- **Dataset :-** Iris dataset.

- **Steps :-**

① Create a CSV file

② Now open weka explorer & then select all attribute in table

③ Select cluster tab in tool & choose normal K-means technique to see result.

- **Result :-** In this experiment, we have successfully implement K-means algo.

Viva - Question :-

Q1 Enumerate the strategy of K-means algorithm implementation on any unlabelled dataset.

→ ① Initialize : Randomly select K-Centroid

② Assign : Assign each data point to nearest Centroid.

③ Update : Recalculate Centroid based on assigned points

④ Iterate : Repeat step 2 & 3 until Centroid stabilize are reached

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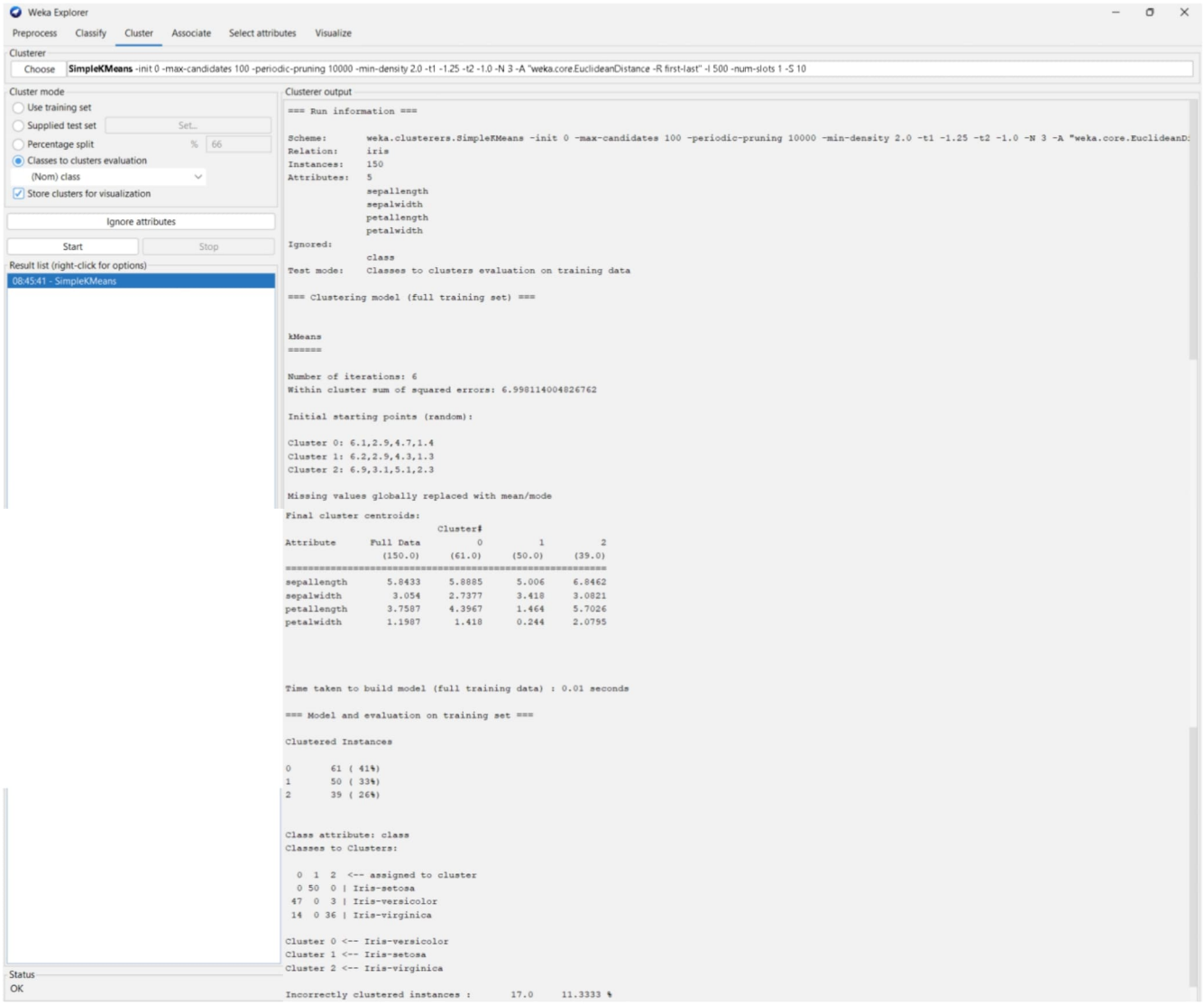
EXPERIMENT 5



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→ (1) Customer segmentation
(2) Image Compression
(3) Anomily detection
(4) document clustering
(5) Biological Data analysis.

Q2

→ Value of k in k-means can optimize using Elbow method or hap statistics.