Dr. Eick

Group Homework Credit Task Group L and M

**Cluster Validity**

*To be presented on Thursday, November 10*

Assume we obtain the following clustering

X={C1={(0, 0), (0, 1)}, C2={(5, 6), (8, 9)}, C3= {(9,9),(13,13), (14,12))},

consisting of 3 clusters containing 7 objects total, has been obtained.

**Tasks:**

1. Compute the silhouette coefficient for each point in the dataset (there are seven of them)
2. Compute the average silhouette for each of the 3 clusters
3. Compute the average silhouette of X
4. Interpret the findings you obtained in steps 2-4
5. Next, assess the clustering quality with the correlation method[[1]](#footnote-1); report the obtained correlation
6. Next, move object {9,9} from cluster C3 to C2 obtaining a different clustering Y; how does the correlation computed in step 6 change?
7. Compute the Cohesion and Separation for clustering X and Y
8. Interpret the findings of steps 7, 8, and 9!

Remarks:

* Group L’s tasks are in blue and group M’s tasks are in brown color!
* Use Manhattan distance for all distance computations in the above tasks!

1. Slide 5 of the cluster validity lecture! [↑](#footnote-ref-1)