

Indian Institute of Space Science and Technology – Thiruvananthapuram

MA613 Data Mining

Assignment-V

Date: 04-11-2015

1. For the following web structure, find google page rank manually (not using power method):

page id	outgoing links
1	3, 2
2	3

2. Find the google page rank:

page id	outgoing links
1	3, 5
2	1
3	2,4
4	5,6
5	1
6	2

3. Apply agglomerative and divisive clustering and draw the dendrogram for the data $A_1(0,8), A_2(0,3), A_3(6,2), A_4(3,6), A_5(5,3), A_6(4,2), A_7(-1,0), A_8(2,7)$.
4. Apply k-mediod on the data: $\{9, 15, 21, 27, 33, 45, 51\}$ for $k = 2$.
5. Apply k means and KSOM on cluster1 data (data is attached)
- (a) Apply a suitable technique to find the best k
 - (b) Plot the clusters.
 - (c) Plot $J(c, \mu)$ for k means
6. Apply DBSCAN on cluster2 data (data is attached)

- (a) Apply a suitable technique to find the number of clusters
- (b) Plot the clusters

7. Discuss the cluster evaluation techniques.

8. Discuss KSOM visualization techniques.

Notes

- All the files related with the assignment should be saved in a single folder and send to sumitra@iist.ac.in.
- Last date of submission: 12-11-2015.
- **As far as assignments are concerned, students are expected to observe academic honesty and integrity. Though the students can collaborate and discuss, copying directly other students' assignment or allowing your own assignment to be copied constitute academic dishonesty and is highly discouraged.**