**Assignment-1**

* Due Jul 11 by 23:59
* Points 12
* Submitting a file upload
* Available Jun 20 at 0:00 - Jul 11 at 23:59

Dear Students

Below is an individual assignment which needs to completed within given time period.

A. Generate random graphs of at least 100 node connected graphs and perform the following network measurement:

B. Perform Following activity on graph:

1.Eccentricity, Diameter

2. Radius (<https://www.youtube.com/watch?v=YbCn8d4Enos> )

3. Centrality : Degree Centrality, EigenVector Centrality, katz centrality, Page Rank

<https://www.youtube.com/watch?v=6-mgtLTPKQs>

<https://www.youtube.com/watch?v=-LO9NLaccFQ>

<https://www.youtube.com/watch?v=bpCRuslQTVo>

4. Perform exploratory analysis of various centralities calculated in step-3 and explain the variation in centrality behavior

5. Calculate betweenness and closeness centrality and explain the physical significance.

6. Draw the Ego-graph of various nodes found in above analysis

7. Calculate the Global clustering coefficient of random graph

8. Calculate the Local clustering coefficient of nodes of Random graph

9. Identify the highest local clustering coefficient and their significance in terms of structural behavior.

<https://www.youtube.com/watch?v=qSqSzzFdhSE>

Each Student is expected to submit the workable code in the form of notebook and also submit your result summary as pdf document. The result should match with code outcome.

<https://www.youtube.com/playlist?list=PLlWULwPzrppXKYVyRxFt0YsgIDXiBDPNR>