Assignment Summary:

orkut- Big data , around 1.22 GB

web-uk - small data, Around 112 MB

ALL the Codes are maintained: <https://github.com/ghoshmithun/graph_analysis>

 Graph data type with three different representations: adjacency matrix, adjacency list, and edge list. The Graph ADT should include the following operations:

1. boolean isEdge(i,j); // returns true if and only if (i,j) is an edge.
2. void addEdge(i,j);  // add an edge (i,j)
3. void deleteEdgE(i,j); // remove an edge(i,j)
4. int degree(i); // returns degree of vertex i
5. int[] adjacent(i); // returns the list of vertices adjacent to vertex i

Above three ADTs does all three operations

Adjacency List

<https://github.com/ghoshmithun/graph_analysis/blob/master/graph_builders/adjacency_list_graph.py>

Adjacency Matrix:

<https://github.com/ghoshmithun/graph_analysis/blob/master/graph_builders/adjacency_matrix.py>

EdgeList

<https://github.com/ghoshmithun/graph_analysis/blob/master/graph_builders/edgelist.py>

(All the above three are tested and working)

Pickle Files have Degree Distributions

Graphs can be found:

<https://github.com/ghoshmithun/graph_analysis/blob/master/analysis/power_law_plot_big.png>

<https://github.com/ghoshmithun/graph_analysis/blob/master/analysis/power_law_plot_small.png>