Q.1 Suppose that the communication among the group of n people in a society is represented by the graph, where vertices represent the persons and the edges represent the distance (communication link distance) between two end vertices. Write a program to perform the following operations on given dataset:

(a) Compute the complete connected graph (all persons are connected to each other)

(b) Compute the sparse graph (every person is connected to only three closest members of the society).

(c) Print the adjacent neighbors of every person in the computed graph (b).

(d) Let us assume that the distance between every pair of nodes in the graph (b) is the same. Perform the depth first search on graph (b).