Lab Assignment 12

Program:

1. Design and implement the Heap Sort algorithm to efficiently sort an array of integers in ascending order. The implementation should be optimized for time and space complexity and should clearly demonstrate the working principles of heap data structures (min-heap or max heap as applicable)
2. Implement a graph of the city using the adjacency matrix /adjacency list. Nodes should represent the various landmarks and links should represent the distance between them.
3. Implement BFS and DFS of Graph recursively and non-recursively.

Answer the questions:

a. Write an algorithm for insertion and deletion of an element from max or min heap. State the time complexity of each operation.

Note:

Upload the zip file of .c and screenshot and pdf of lab writing. Code should be modular and add necessary comments.