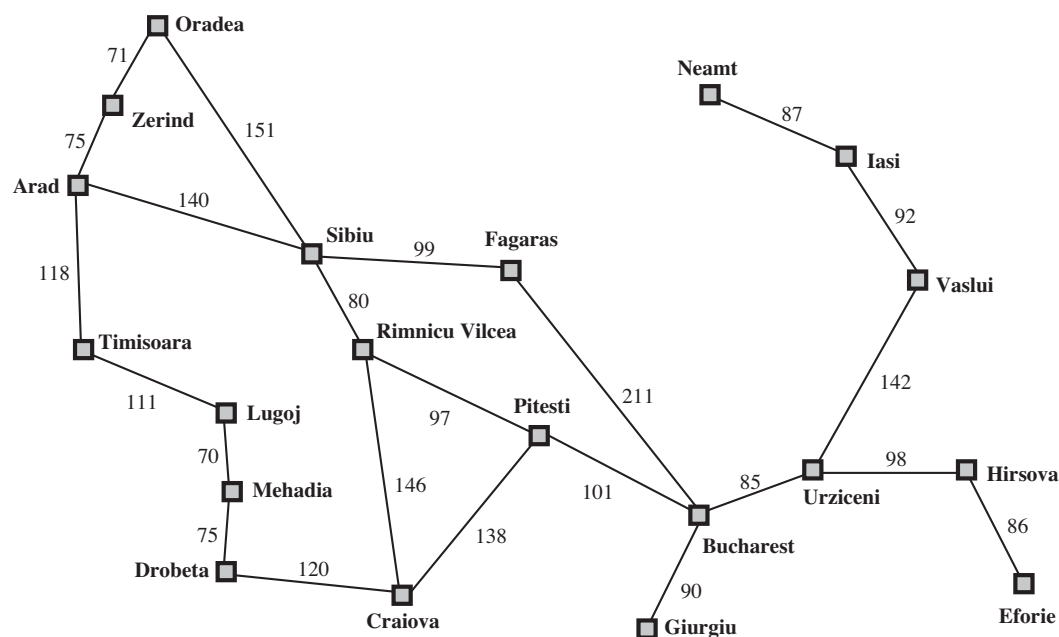


Purpose:

The purpose of this assignment is to allow you to experiment with multiple uninformed search algorithms, which will include a representation of the world, an algorithm for search, and the observation of some metrics associated with the search algorithms you are using.

Description:

The following undirected weighted graph represents the connectivity between various cities in Romania. Each edge means that there is a bidirectional path between the connecting nodes. The number on the edges represents the cost to travel from one city to another.



Russel and Norvig, Artificial Intelligence: A Modern Approach

You are to achieve the following:

1. Represent this world using an adjacency matrix (or another data structure of your choice).
2. Implement the following uninformed search algorithms:
 - a. Bread first search
 - b. Depth first search
 - c. Uniform cost search.
3. Allow your program to:

4. Use a representation of the world, select an algorithm, a source city, and a destination city.
5. Output:
 - a. The total number of nodes generated (to represent time).
 - b. The maximum number of nodes that existed in memory for any given run (to represent space).
 - c. The path (from city to another) that will lead you from source to destination using the algorithm you decided to use.

You can hard code the world, but you need to ask the user to select the algorithm, the source city, and destination city to allow for proper testing of your implementation. Consider keeping track of the cities you already explored earlier (explored set). Implement your code in Java. You can make valid assumptions that do not violate the requirements, but state them very clearly.