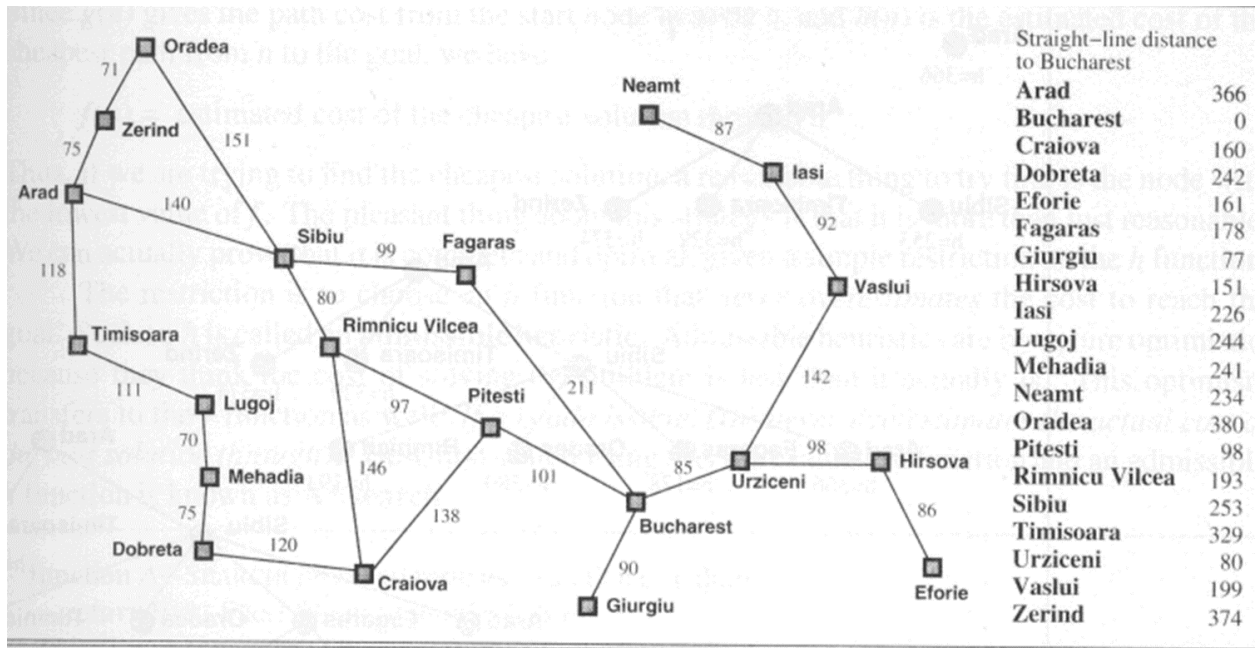


1. Implement A\* search to find an optimal path in between Arad and Bucharest in the given figure.



**Figure 4.2** Map of Romania with road distances in km, and straight-line distances to Bucharest.

2. Write a program to perform Stemming in NLP.
3. Write a program to perform Lemmatization in NLP.
4. Write a program to show all the basic steps (tokenization, stop words removal, stemming, lemmatization, etc) of NLP.