CSC261: Artificial Intelligence

Godawari College

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Programming Assignment 2: A problem well-stated is a problem half-solved !

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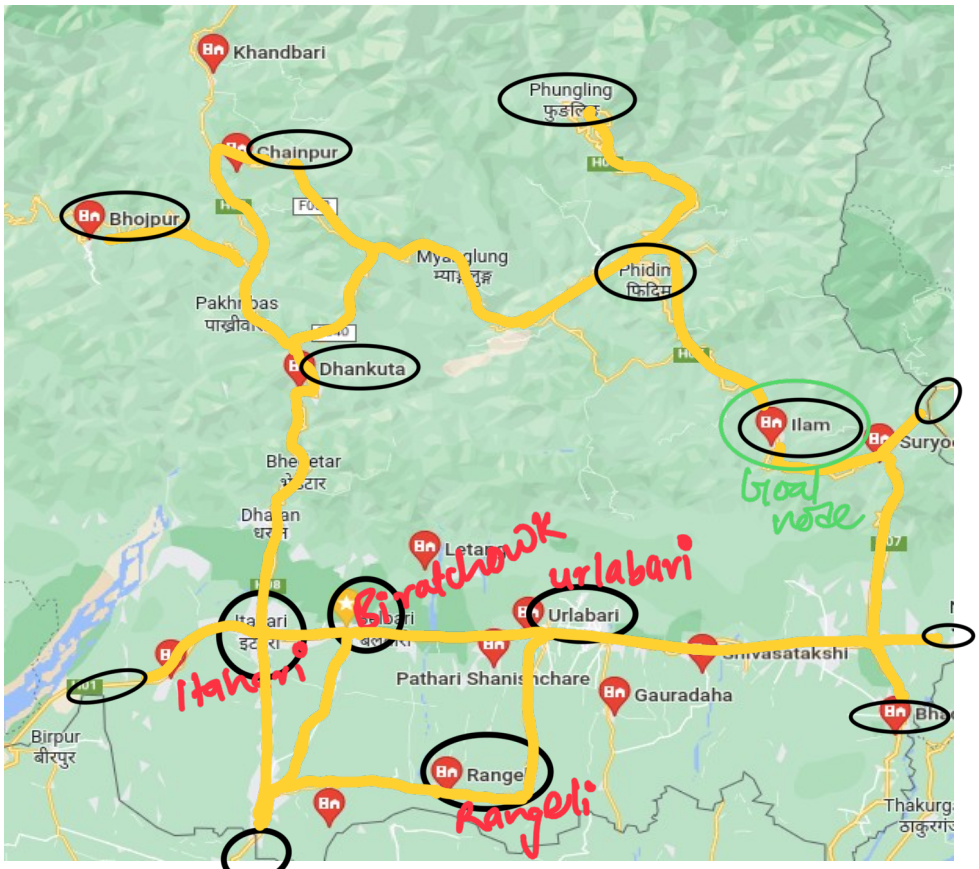
1. Problem statement *5 Marks*

- Given a transportation network represented as a graph where nodes/state represent cities and edges represent road links between the cities, implement a function (using any high level language; preferably Python) that performs a breadth-first search and return the path from starting city to the destination city, if there exist.
  Starting city: Biratnagar
  Destination city: Illam



Assume the following:

1. Road network in yellow color
2. Cities in black color

- Suppose you have a family hierarchy: (Please use appropriate names of for every nodes and you are free to restructure the hierarchy as per your family structure)

  Example:
  Great_grand _parents (root node)
  Grand parents (Great_grand _parents child)
  Parents (Grand parents child)
  You (Parents child)
  Uncle (Grand parents child)
  Parents_Uncle (Great_grand _parents child)
  XYZ (Parents_Uncle child)
  ABC (Parents_Uncle child)

  Now based on your family hierarchy represented as a tree implement a function (using any high level language; preferably Python) that performs a depth-first search and return the path from node Great_grand_parents (root node) to node You (Parents_child).

2. Submission

Your submission must be named rollnum-pa2.zip, where rollnum is your TU exam roll-number in small letters. Upon unzipping the submission, we should get a directory named rollnum-pa2 containing only 3 files: a detailed report and separate code files for each problems.

3. Warning

The assignment is simple enough, and the instructor too has access to existing online implementations. Further, the assignment has to be done individually. Any hint of plagiarism will lead to serious implications.