

Class Test 1
(Uninformed Search)

Name:

Student ID:

(While expanding any node, to break tie, you have to consider the nodes in **lexicographical** order that is expand A before B, B before C, AX before BZ etc)

1. Suppose you are searching words only made by the letters B, D, I and R. So you write down the possible words as follows: B, D, I, R, BB, BD, BI, BR, DB, ...
 - a. (Mark 2+3) Are you doing Breadth First Search or Depth First Search (storing nodes to avoid revisit)? Write down first five terms of “the other” searching method.
 - b. (Mark 5) How many nodes will be visited before getting BIRD in BFS and DFS (storing a node to avoid revisit)? [Show the sequence or show your calculation or draw the tree]
 - c. (Bonus 2) What about finding word BIRDBIRDBIRD in BFS and DFS?
2. Suppose you are playing a game. Initially you start with empty word. Then at each turn you may add or remove any character at/from any position in the word. But the resulting word should be within the set: A, AT, AN, RT, TR, RAT, ART, PAT, ANT, PRT, PART, PANT, ANTS.
 - a. (Mark 4) Can you design a graph model for this problem? (Just draw the graph. Help: There will be 17 edges in the graph)
 - b. (Mark 6) Starting with empty string search for the word ANTS by Iterative Deepening DFS.

Class Test 1
(Uninformed Search)

Name:

Student ID:

(While expanding any node, to break tie, you have to consider the nodes in **lexicographical** order that is expand A before B, B before C, AX before BZ etc)

3. Suppose you are searching words only made by the letters D, I, N and O. So you write down the possible words as follows: D, I, N, O, DD, DI, DN, DO, ID ...
 - a. (Mark 2+3) Are you doing Breadth First Search or Depth First Search (storing nodes to avoid revisit)? Write down first five terms of “the other” searching method.
 - b. (Mark 5) How many nodes will be visited before getting DINO in BFS and DFS (storing a node to avoid revisit)? [Show the sequence or show your calculation or draw the tree]
 - c. (Bonus 5) What about finding word DINODINODINO in BFS and DFS?
4. Suppose you are playing a game. Initially you start with empty word. Then at each turn you may add or remove any character at/from any position in the word. But the resulting word should be within the set: O, ON, OR, TM, TON, MON, ORN, TOR, TO, TORN, MORN
 - a. (Mark 4) Can you design a graph model for this problem? (Just draw the graph. Help: There will be 14 edges in the graph)
 - b. (Mark 6) Starting with empty string search for the word MORN by Iterative Deepening DFS.