

UCT31021 – PRACTICAL FOR ARTIFICIAL INTELLIGENCE
DEPARTMENT OF ICT
FACULTY OF TECHNOLOGY
SOUTH EASTERN UNIVERSITY OF SRI LANKA

Labsheet: 07

Title: Traversals in PROLOG

Aims:

- To understand Breath First Search (BFS) and Depth First Search (DFS)

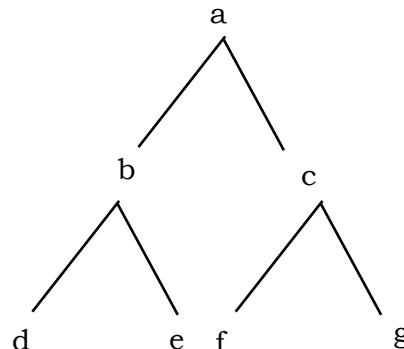
e.g.:

BFS

a, b, c, d, e, f, g

DFS

a, b, d, e, c, f, g

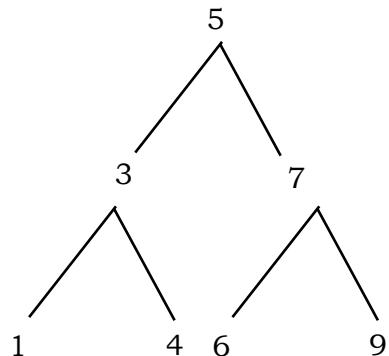


Task 01:

1. Give an example for each in-build operations related to a list.
 - a. length/2
 - b. append/3
 - c. memberchk/2
 - d. delete/3
 - e. union/3
 - f. reverse/2
2. Create rules to check the availability of the member in given list. Note: use recursive function to check each member in the list.

Task 02:

1. Create a knowledgebase with suitable facts by using list to represent following tree.



2. The result of the BFS of a list of 5, 3, 7, 1, 4, 6, and 9. Create rules to have the results of BFS.
3. The result of the DFS of a list of 5, 3, 1, 4, 7, 6, and 9. Create rules to have the results of DFS.

Task 03: Finding path in a graph

Consider the following connected graph

