List manipulation in Prolog

Submit Assignment

Due Monday by 11:59pm **Points** 10 **Submitting** a file upload **File Types** pdf

The Computer Science department provides racket Prolog. The prolog interpreter is run as "swipl"

You can create your prolog code in a file and read it in like the following example (the ending period is VERY VERY VERY important in PROLOG)

['prolog.extract'].

Where the filename is in the single quotes.

Comments are indicated with the '%' symbol

This Programming assignment deals with traversing a list in Prolog. You may wish to read up and test examples from the network on traversing lists.

Prolog Examples

Problem Definition:

You are to create two Prolog Procedures (with any supporting procedures) to do the the following:

1) Given a Binary tree represented as a list, provide a UNIQUE list of leaves of the tree: Example

mytreeunique([a,[b,[a,[c,d]]]],X).

Yields X=[a,b,c,d]

mytreeunique can be described as the uniq of the flatten of the list.

2) Given a Binary tree, report the longest path from the root to a leaf. **Here is a link to a pictorial representation.** 

Example

mydepth([a,[b,[a,[c,d]]]],X).

Yields X=8.

mydepth of nil is 0

mydepth of an atom is 0

mydepth of a list is the max(depth(H), depth(T)) + 1

Deliverables

1) Your name and problem description

2) Your prolog code with proper, to the point documentation

3) A screen shot of the run of your code