

#### **EECS-3401A**

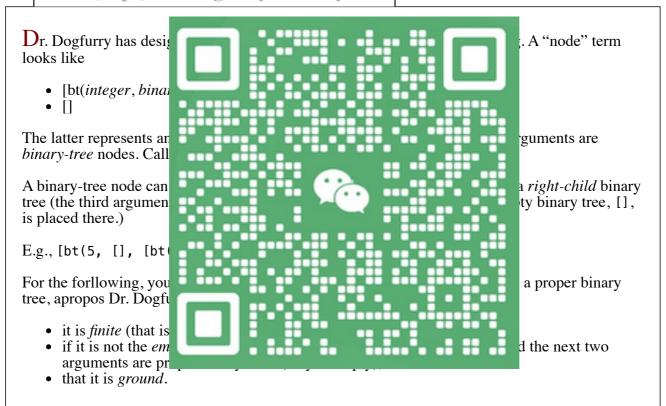
# Introduction to AI & LP York University Fall 2022

Assignment #2
Widgets

General

For Q1 through Q7, build Prolog procedures for SWI Prolog that work as specified.

### Part I [20pt]: Dr. Dogfurry's Binary Tree



## Q1.[5pt] empty\_bintree/1

Write a procedure for empty\_bintree/1 that takes an argument Tree. It should return *true* if this is an *empty* binary tree, apropos Dr. Dogfurry's representation; and *false* (*fail*), otherwise.

The procedure should return *true* — with the appropriate additional behaviour — with an *unbound* variable for its argument.

#### Q2. [5pt] bintree\_contains/2

Write a procedure for bintree\_contains/2 that takes two arguments, Key and Tree, in that order. The latter argument is *input*.

The procedure should evaluate *true iff* Kev is equal to the *kev* of any node in the *binary tree*