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COS 314  
PROJECT 1: GAME TREES

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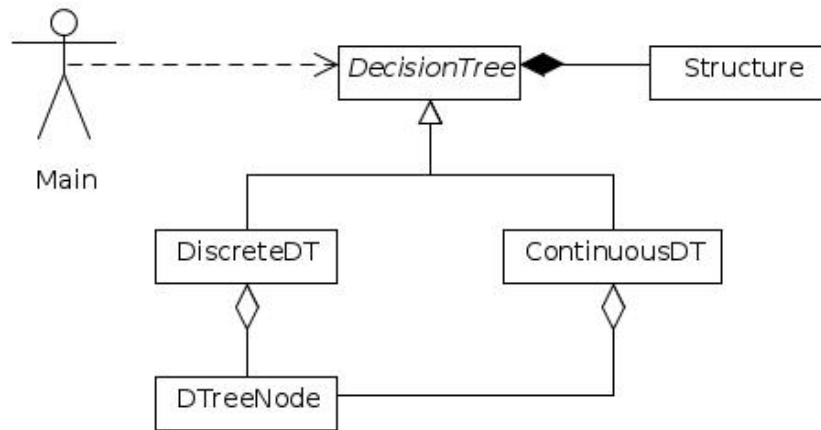
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# 1 Overview

## 1.1 Overall UML Diagram



## 1.2 Options Implemented

- -d
- -c
- -md
- -mc
- -pc
- -pd

## 1.3 Please Note

The code is not as efficient as it could be. For example, I have two functions in DiscreteDT called `induceWithMissing()` and `induceNoMissing()`. These two are very much the same, but I wanted to make the different algorithms that were used as clear as possible.

# 2 Compile and Run Program

For this project I used the language of C++.

## 2.1 Compile

To compile the program, open a terminal and type in the following commands:

```
cd DecisionTree/
make
```

## 2.2 Run

To run the program, make sure you are in the "DecisionTree/" directory. Copy the two files (data file and spec file) into this directory. Open a terminal and type:

```
./DecisionTree option specfile datafile
```

Where option is one of: -d, -c, -md, -mc, -pd, -pc.

While inducing a tree and pruning a tree, there will be some values displayed on the screen. This is just to make sure that the program is doing something. When it is finished, the last part will be the requested output. The requested output will also be written to a file called "data.out".

The game also keeps track of how many seeds are in the stack of each player, as well as how many seeds are currently in the hand (the value on the right side of the board).

When an AI is playing, the alphaBeta pruning functionality can be followed in the terminal. It gives exactly which states it considers and which it prunes based on what knowledge.

## **2.3 Contact**

If you cannot get the program to compile and run, or have any other issue with regards to anything, please contact me:

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## **2.4 What does not work**

To make your job easier, here is a list of things that do not work: