CS 4300: Artificial Intelligence

Assignment: Rubik’s Cube Search Classes

This assignment is built on top of the previous assignment. You will now move your Rubik’s Cube class into the AI search library framework, and begin to implement the search related classes.

This assignment requires you to clone the course source code git repository into an environment compatible with Ubuntu 16.04 or 18.04. This can be accomplished with a native installation, a virtual machine or the Windows Subsystem for Linux.

Go to the Canvas announcement to get the link required to checkout your assignment repository.

Required Classes

- Create header and implementation files in cs4300-code-ai-agents/prog/RubiksCube.
- Create an Action class that inherits from ai::Search::Action. This class is usually simple. Instances need to be able to uniquely identify any of the legal actions.
- Create a State class that inherits from ai::Search::State. This class will probably have an instance of your cube class as a data member. There are a few required methods, for example isEqual.
- Create a Problem class that inherits from ai::Search::Problem. This class requires at least 4 methods, in addition to the constructor. Look at the Actions, GoalTest, Result and StepCost methods.

Required Functionality

- Your code must compile, and be as close to correct as possible.
- No additional executable program functionality is required at this stage.

Passoff

Submit your source code by committing and pushing the repository.