CSCE 580: Artificial Intelligence
Coding Homework 0
Due: 08/23/2022

1 Python Setup

1.1 Installing conda

We will be using the `conda` package management system.

To get started, download Anaconda from `https://docs.anaconda.com/anaconda/install/`.

After downloading the code repository, `cd` to the directory of the code.

A list of all the packages needed for the virtual environment is in environment.yml. Duplicate the virtual environment with:
`conda env create -f environment.yml`

This will create a conda environment called `aiclass`.

Then, activate your environment
`conda activate aiclass`

When you are finished using the environment you can deactivate it with
`conda deactivate`

You can always activate it again with
`conda activate aiclass`

1.2 Running the Code

Run your code with the command `python run_assignment_0.py --map maps/map1.txt`.
You should see the image shown in Figure 1.

1.3 Familiarizing Yourself with Python

Students are expected to be proficient programmers. If you do not already know Python, you will be expected to learn it independently and rapidly.

You can familiarize yourself with the basics here: `https://www.tutorialspoint.com/python/python_classes_objects.htm`. Everything up until, and including, "Classes/Objects" will be relevant for the class.

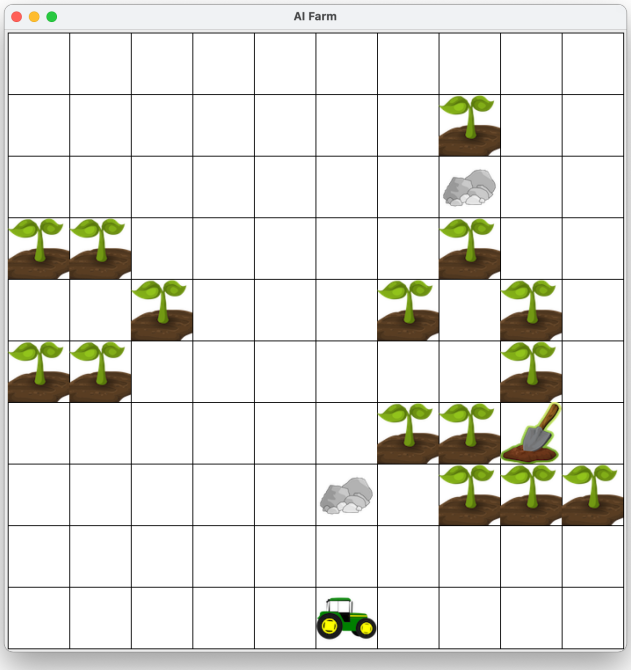

Figure 1: The window that you should see after running the code.

2 Prolog Setup

2.1 Installation

Download swi-Prolog from https://www.swi-prolog.org/download/stable.

2.2 Running the Code

On the command line, run: `swipl swipl test/test_map_color.pl`. This will take you to the Prolog interpreter. In the interpreter enter `print_colors.` (include the period). You should then see:

```
WA: red, NT: blue, SA: green, Q: red, NSW: blue, V: red, T: red
true
```

If you keep pressing the semicolon, the output should look like this:

```
WA: red, NT: blue, SA: green, Q: red, NSW: blue, V: red, T: red
true ;
WA: red, NT: blue, SA: green, Q: red, NSW: blue, V: red, T: blue
true ;
WA: red, NT: blue, SA: green, Q: red, NSW: blue, V: red, T: green
true ;
WA: red, NT: green, SA: blue, Q: red, NSW: green, V: red, T: red
true ;
WA: red, NT: green, SA: blue, Q: red, NSW: green, V: red, T: blue
true ;
WA: red, NT: green, SA: blue, Q: red, NSW: green, V: red, T: green
true ;
WA: blue, NT: red, SA: green, Q: blue, NSW: red, V: blue, T: red
```

```
true ;
WA: blue, NT: red, SA: green, Q: blue, NSW: red, V: blue, T: blue
true ;
WA: blue, NT: red, SA: green, Q: blue, NSW: red, V: blue, T: green
true ;
WA: blue, NT: green, SA: red, Q: blue, NSW: green, V: blue, T: red
true ;
WA: blue, NT: green, SA: red, Q: blue, NSW: green, V: blue, T: blue
true ;
WA: blue, NT: green, SA: red, Q: blue, NSW: green, V: blue, T: green
true ;
WA: green, NT: red, SA: blue, Q: green, NSW: red, V: green, T: red
true ;
WA: green, NT: red, SA: blue, Q: green, NSW: red, V: green, T: blue
true ;
WA: green, NT: red, SA: blue, Q: green, NSW: red, V: green, T: green
true ;
WA: green, NT: blue, SA: red, Q: green, NSW: blue, V: green, T: red
true ;
WA: green, NT: blue, SA: red, Q: green, NSW: blue, V: green, T: blue
true ;
WA: green, NT: blue, SA: red, Q: green, NSW: blue, V: green, T: green
true ;
false.
```

What to Turn In

While there is nothing to turn in for this assignment, it is important that you complete this by the next class so you do not fall behind.