

Implementing Search Agents

COMP30024 Artificial Intelligence
Week 3 Supplementary Notes

Outline

The textbook “Artificial Intelligence A Modern Approach” (AIMA) by Russell and Norvig provides a set of class libraries to support the textbook

The AIMA Java libraries provide a sophisticated framework of classes to implement a wide variety of different searches

These supplementary notes give the top-level of an example of how to solve the N-Queens problem using the AIMA libraries

Basic framework

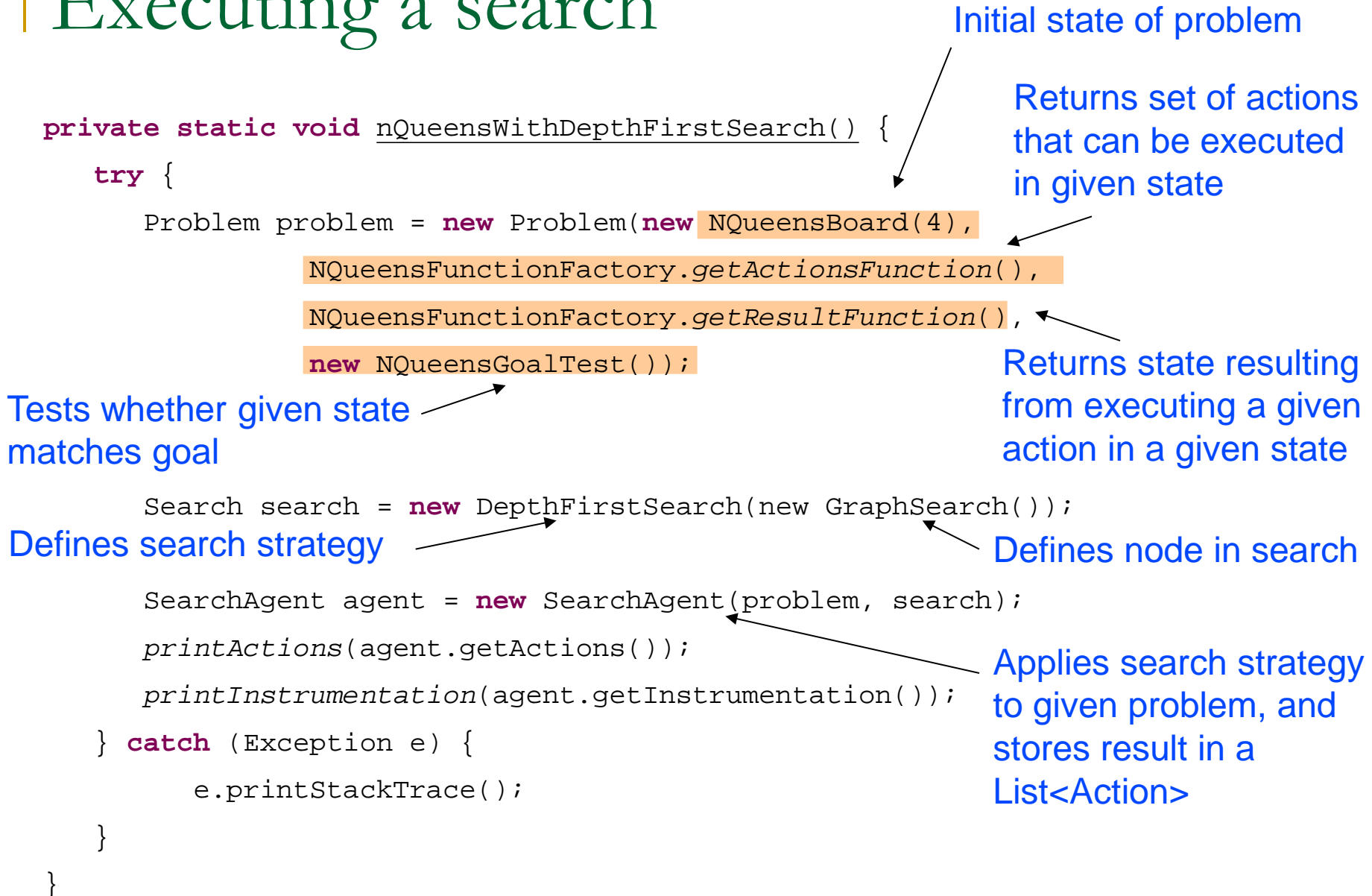
```
package aima.search.demos;

import java.util.HashSet;
...
import aima.core.search.framework.GraphSearch;
...
import aima.core.environment.nqueens.NQueensBoard;
...
import aima.core.search.uninformed.DepthFirstSearch;
import aima.core.search.uninformed.DepthLimitedSearch;

public class NQueensDemo {

    public static void main(String[] args) {
        nQueensWithDepthFirstSearch();
    }
}
```

Executing a search



Trying out the AIMA framework

- Based on the tutorial exercise, think how you could implement N-Queens in this framework
- To understand the design of the N-Queens support classes, see `aima.core.environment.nqueens.*`
- These classes are available on `nutmeg.eng.unimelb.edu.au` or `dimefox.eng.unimelb.edu.au` under `/home/subjects/comp30024/aima-java-read-only/aima-core`
- These libraries are stored as an Eclipse project
- Note that you need to use Java 1.7 or higher