

Lesson 3:
A* Search

SEARCH

RESOURCES

CONCEPTS

1. Intro

2. Motion Planning

3. Maze

4. Maze 2

5. Coding the Shortest Path Algorithm

6. A* Search

7. Lesson Code Structure

8. CODE: Starting A* Search

9. CODE: Writing the A* Heuristic

10. Pass by Reference in C++

11. CODE: Adding Nodes to the Ope...

12. CODE: Initialize the Open Vector

13. CODE: Create a Comparison Fun...

14. CODE: Write a While Loop for the...

15. CODE: Check for Valid Neighbors

16. Constants

17. CODE: Expand the A* Search to ...

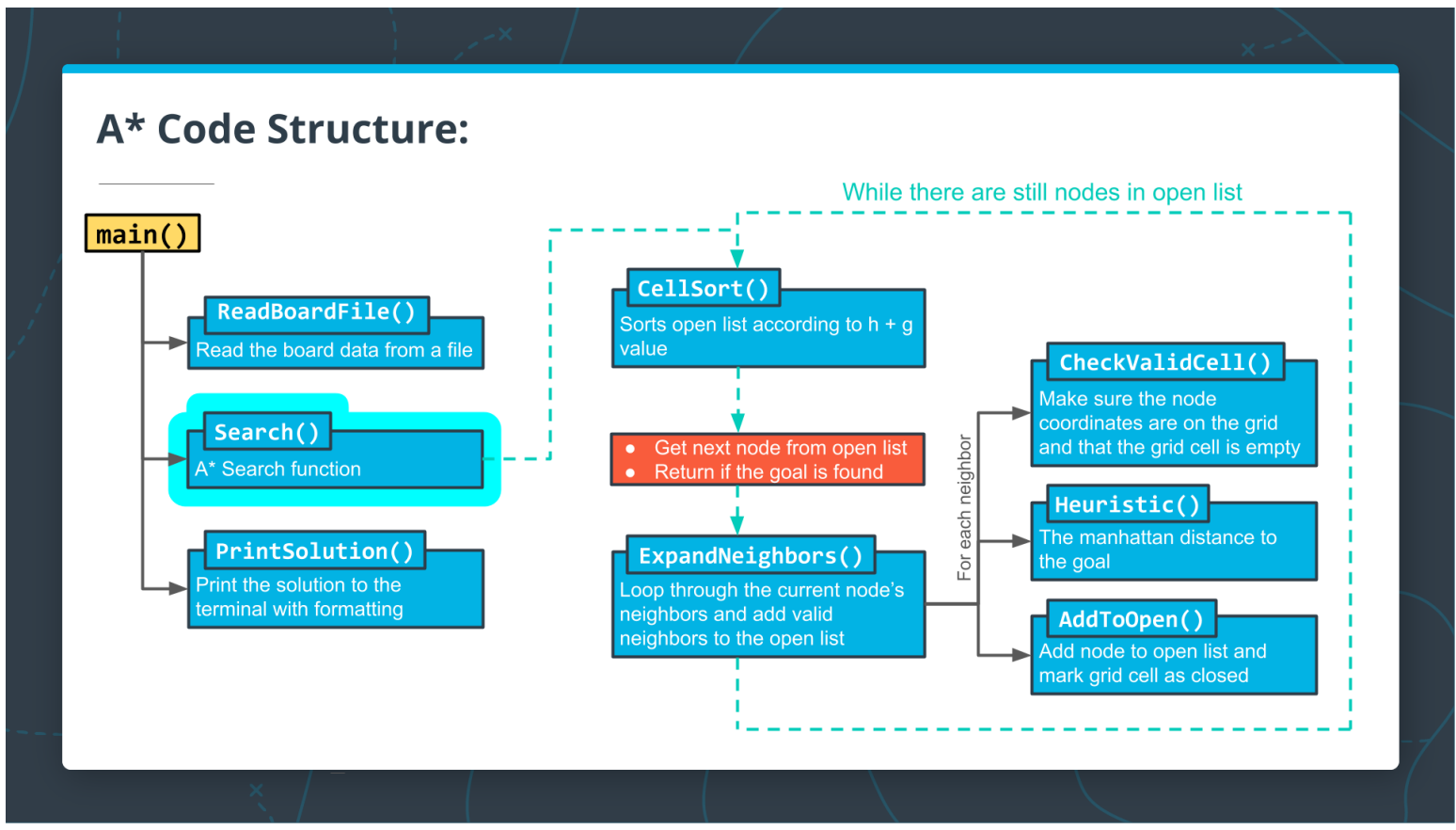
18. Arrays

19. CODE: Adding a Start and End to ...

20. Congratulations!!

21. How to Become More Proficient ...

Initialize the Open Vector



Filling out the `Search()` function

Fantastic work so far! In the last few coding exercises, you've been writing helper functions that will be used in the A* search. While there are a few more helper functions that still need to be written, in this exercise, you will begin implementing the body of the `Search` function. In particular, you will take the arguments that are passed to the search function, get the x, y, g, and h values for the first node, and then add the first node to the open vector.

We have provided the empty vector of open nodes, `open`, in the `Search` function for you to use.

To Complete This Exercise:

- Initialize variables with the starting node values as follows:
 - `x` and `y` are given by the `init` variable values,
 - Set the initial cost `g` = 0,
 - `h` is given by `Heuristic` function.
- Add first node to open vector using the `AddToOpen` function by passing the node values: `x`, `y`, `g` and `h`, along with the `open` and `grid` vectors.

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home > workspace

1.board

main.cpp

solution.cpp

test.cpp

main.cpp

```
1 * #include <fstream>
2 #include <iostream>
3 #include <fstream>
4 #include <string>
5 #include <vector>
6 using std::cout;
7 using std::ifstream;
8 using std::ofstream;
9 using std::string;
10 using std::vector;
11 using std::abs;
12
13 ... class Node {
14     ...
15 }
```

+ BASH

```
root@bb7180b2ba1c: /home/workspace#
```

Menu

Expand