Lesson 2: Introduction to the C++ Language SEARCH RESOURCES CONCEPTS ☑ 1. Intro 2. CODE: Write and Run Your First C... 3. Compiled Languages vs Scripted L... 4. C++ Output and Language Basics 5. CODE: Send Output to the Console 6. How to Store Data 7. Bjarne Introduces C++ Types 🛂 8. Primitive Variable Types ✓ 9. What is a Vector? 10. C++ Vectors 11. C++ Comments 12. Using Auto 13. CODE: Store a Grid in Your Progr... 14. Getting Ready for Printing 15. Working with Vectors ☑ 17. Functions ☑ 18. CODE: Print the Board 19. If Statements and While Loops 20. Reading from a File 21. CODE: Read the Board from a File 22. Processing Strings 23. Adding Data to a Vector 24. CODE: Parse Lines from the File 25. CODE: Use the ParseLine Function 26. Formatting the Printed Board 27. CODE: Formatting the Printed Bo...

28. CODE: Store the Board using the ...

☑ 29. Great Work!

**Using** auto In your previous code, the type for each variable was explicitly declared. In general, this is not necessary, and the compiler can determine the type based on the value being assigned. To have the type automatically determined, use the auto keyword. You can test this by executing the cell below:

Using Auto

In []: #include <iostream> #include <vector> using std::vector; using std::cout; int main() { auto i = 5; auto  $v_6 = \{1, 2, 3\};$ cout << "Variables declared and initialized without explicitly stating type!" << "\m";

Run Code See Explanation

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It is helpful to manually declare the type of a variable if you want the variable type to be clear for reader of your code, or if you want to be explicit about the number types with different levels of precision, and this precision might not be clear from the value being assigned.

## **Practice**

Practice using auto to declare and initialize a vector v with the value {7, 8, 9, 10}. If you have trouble, click here for help.

In []: ▶ #include <iostream> #include <vector> using std::vector; using std::cout; int main() { // Declare and initialize v using auto here. auto  $v = \{7,8,9,10\};$ for(auto i : v) cout << i << " "; cout << "₩n";

Run Code Show Solution

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