

If Statements and Switch in C++17 Solutions

Initializer in if Statement

- What does it mean to have an initializer in an if statement?
 - We can declare an initialized variable in an if statement
 - The variable exists only in the scope of the if statement
 - Similar to an initializer in a for loop
- Write a simple program that uses an initializer in an if statement

Initializer in Switch Statement

- What does it mean to have an initializer in a switch statement?
 - We can declare an initialized variable in an switch statement
 - The variable exists only in the scope of the switch statement
 - Similar to an initializer in an if statement
- Write a simple program that uses an initializer in a switch statement

Falling Through Case Labels

- What does it mean to "fall through" a case label?
 - In a switch statement, the program flow jumps to the case which matches
 - It will continue executing until it encounters a break statement (or the end of the switch statement)
 - If there is no break statement at the end of a case label, the program flow will continue to the next case label and start executing it
 - This is known as "falling through"
- Is "falling through" useful?
 - Sometimes it is useful, to avoid duplicating code
 - However, if a break statement is accidentally missed out, falling through can result in incorrect results

Falling Through Case Labels

- Write a simple program that demonstrates "fall through"

Fallthrough Attribute

- Why is the fallthrough attribute useful?
 - The fallthrough attribute shows that a break statement has been missed out on purpose
 - i.e., the programmer wants the program flow to continue to the next case label
- Write a simple program that uses the fallthrough attribute