Switch Statements in C++17 Solutions

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

Switch Initializer and Structured Binding

- Modify your solution from the last exercise to use a structured binding

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
- Modify your program from the last exercise to use the fallthrough attribute