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- Some problems require control mechanisms that are more powerful than sequential execution, namely, selection and repetition.
- Sequential execution refers to execution of a sequence of statements in the order in which they appear, so that each statement is executed exactly once.
- Selective execution refers to selecting and executing exactly one of a collection of alternative actions.
- The `if` statement is the most common selection structure for selecting between two alternatives.
- A block groups a sequence of statements into a single statement by enclosing them in curly braces ( `{` and `}` ).
- `if` statements are useful for checking a method's preconditions.
- When one of the alternatives in an `if` statement contains another `if` statement, the second `if` statement is said to be nested in the first. In this case, an `else` clause is matched with the nearest preceding unmatched `if`.
- A method name can be overloaded, provided no two definitions of the method have the same signature.
- There are three parts to a repetition mechanism ( also called a loop ): (1) initialization, repeated execution, and termination.
- A `for` loop executes a statement repeatedly, as long as some Boolean expression is true.
- Sentinel - based input processing can be used in many problems that involve processing lists of data. It uses an indefinite ( forever ) loop containing an `if - break` combination to exit the loop when a sentinel value is read.