

# CONTROL FLOW IN PYTHON

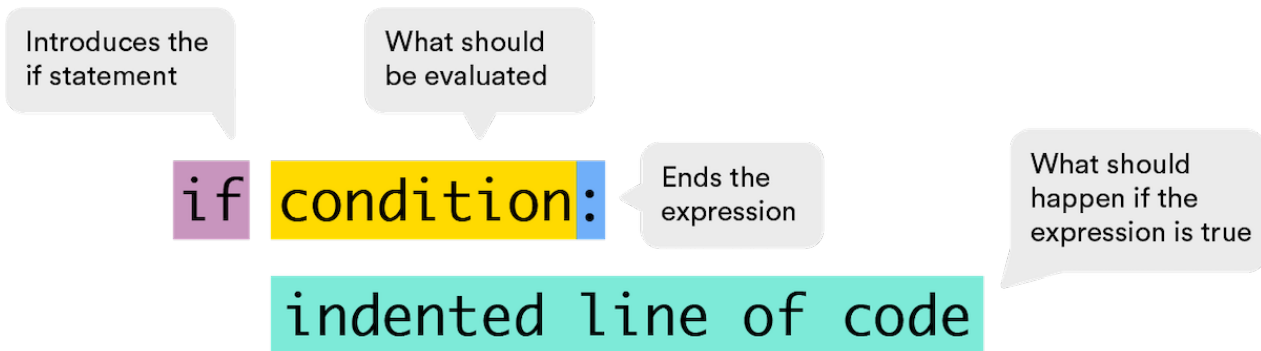
## Key Terms and Definitions

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**Expression:** Any valid piece of code that evaluates to something.

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**Control Flow:** Control flow is what keeps our programs from doing the same thing every single time. It tells our programs what to do based on different conditions.



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**if Statements:** Expressions that evaluate to a Boolean result (True or False) and test a conditional statement, such as comparing two objects. You can write code that operates a certain way only if the if statement evaluates to True. You can use the `elif` (else if) condition to link multiple if statements and the `else` condition to tell your code to do something different if their statement evaluates to False.

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**Logical Operators:** Allow us to combine conditional statements. These are `and`, `or`, and `not`.

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**while Loops:** You can think about the `while` statement as a repeated if statement, which first evaluates the `while` expression before deciding whether to execute its code block. A `while` loop is generally used in Python if it is not known when the looping will stop or how many iterations the loop will require. The `while` loop is in many ways the most basic looping construct. All other loops can be rewritten as a `while` loop.

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**for Loops:** A `while` loop in which the "while" statement is automatically set to be a specific number of iterations.

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**range:** A built-in Python function that returns a list of numbers between given starting and ending points in defined increments.

## Guiding Questions

1. Name a few situations in which you would use a `while` loop versus a `for` loop, and vice versa.
2. What do we mean when we say a piece of code "evaluates" to a result?
3. Think about how if statements relate to your decision-making process. What does the if statement for choosing your outfit in the morning look like (using `if/elif/else` to reach a conclusion)?

