Conditional statements.

As you start this lesson, make sure you have a good understanding of boolean variables and expressions since they are building blocks of conditional statements.

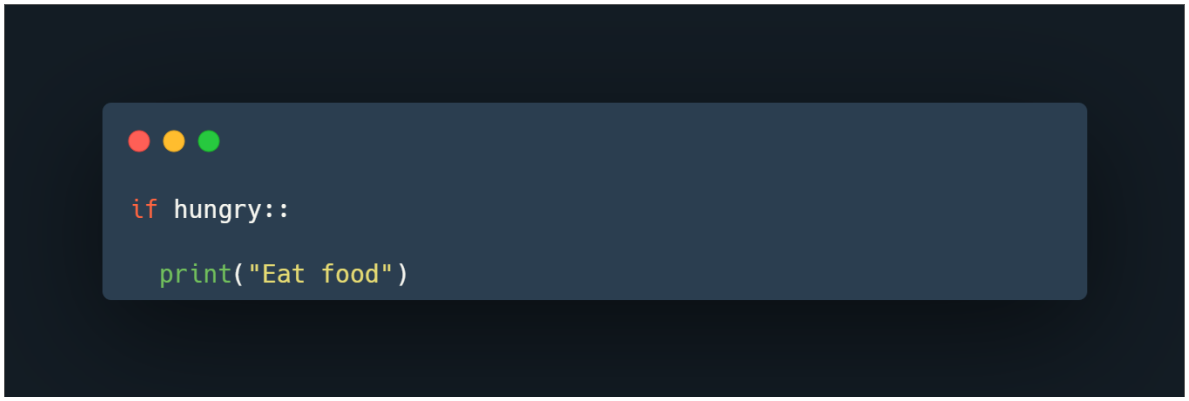
Conditional statements help in the decision-making process, for example,

- “Are you hungry? If so, then eat” is a conditional statement

Phrased as: - ***If you’re hungry, then eat***

Let's break this down to pick a boolean expression in our conditional statement.

- “Are you hungry” is the boolean expression here, so the conditional statement is checking if it’s True.
- If “are you hungry” == True, the conditional statement will be executed and you will eat.
- If [you are hungry], then [eat food]



In computer programming, we use the if statement to run a block code only when a certain condition is met.

In Python, there are three forms of the if...else statement.

1. if statement
2. if...else statement
3. if...elif...else statement

1. Python if Statement

The basic syntax for the if statement:

```
# Example of a basic if statement
temperature = 30

if temperature > 25:
    print("It's a hot day!")
```

The if statement evaluates the condition.

1. If condition is evaluated to True, the code inside the body of if is executed.
2. If condition is evaluated to False, the code inside the body of if is skipped.

Practice more on using if conditional statements with:

- Relational operators: (>, >=, <, <=)

- Boolean operators: (and, or, not)

2. Python if...else Statement

Syntax

```
# Example of an if-else statement
temperature = 20

if temperature > 25:
    print("It's a hot day!")
else:
    print("It's a cool day!")
```

If the condition evaluates to True,

- the code inside if is executed
- the code inside else is skipped

If the condition evaluates to False,

- the code inside else is executed
- the code inside if is skipped

3. Python if...elif...else Statement

The if...else statement is used to execute a block of code among two alternatives.

However, if we need to make a choice between more than two alternatives, then we use the if...elif...else statement.

The syntax of the if...elif...else statement is:

```
# Example of an if...elif...else statement
temperature = 15

if temperature > 25:
    print("It's a hot day!")
elif temperature > 15:
    print("It's a warm day!")
else:
    print("It's a cold day!")
```

Here,

1. If the condition evaluates to true, code block 1 is executed.
2. If condition1 evaluates to false, then condition2 is evaluated.
3. If condition 2 is true, code block 2 is executed.
4. If condition 2 is false, code block 3 is executed.

Test YourSelf with the Question Below :

Write an if/elif/else statement for a college with a grading system as shown below:

- If grade is 90 or higher, print "A"
- Else if grade is 80 or higher, print "B"
- Else if grade is 70 or higher, print "C"
- Else if grade is 60 or higher, print "D"
- Else, print "F"

More Resources for if statements

https://www.programiz.com/python-programming/if-elif-else

https://www.codecademy.com/resources/docs/python/conditionals