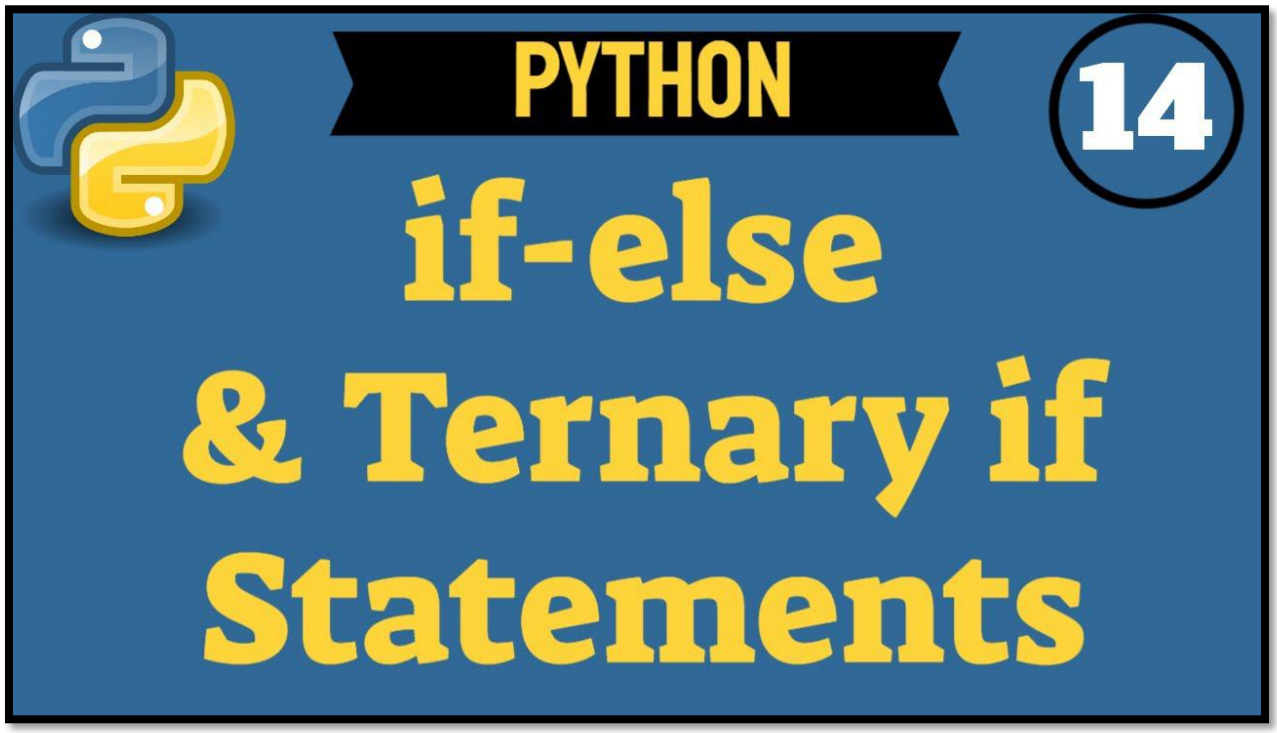
Rex Jones II

Python if-else & Ternary if Statements



Python Video = https://youtu.be/rGpmH4j0eAw

Flow Control

In this session, we are going to look at Python if – else statement. An if – else statement allows our program to make a decision based on a condition. The condition evaluates to True or False. We can execute some code when the condition is True and other code when the condition is False.

In our IDE, the condition is if you are 18 years old or older. The program will print Confirm You Can Vote Then Go Vote. If not 18 then the program will print Sorry But You Are Not Old Enough To Vote. Please Come Back When You Are 18 Or Older.

```
'''
if you're 18 years old or older
  Confirm You Can Vote
  Then Go Vote
if not 18
  Sorry But You Are Not Old Enough To Vote
  Please Come Back When You Are 18 Or Older
'''
```

Our program will respond to the condition depending on the age. Let's start by writing a basic if statement. I'm going to type age and it will be assigned the input("What Is Your Age? "). We want to receive an integer so int() in front of the input function. I can write an if statement to check if the value of age is >= 18: Now, age >= 18 is the condition. It will return True or False. Make sure to add the colon then enter. Notice how the next line is indented with 2 spaces. That's because Python relies on indentation to determine the scope. The scope includes everything indented under the if statement. Therefore, it will be executed when the condition is True. For example, if I write 3 print statements. 2 print statements under the if condition. print("Confirm You Can Vote") and print("Then Go Vote"). The third print statement ("Have A Great Day") is not indented and does not belong to the if condition. That means it will print every time since it is not part of an if condition.

```
age = int(input("What Is Your Age?"))

if age >= 18:
  print("Confirm You Can Vote")
  print("Then Go Vote")
print("Have A Great Day")
```

Let's Run. How Old Are You? 18, Confirm You Can Vote, Then Go Vote, Have A Great Day.

```
What Is Your Age? 18
Confirm You Can Vote
Then Go Vote
Have A Great Day
```

Let's Run again. This time, 14 is the age. Have A Great Day and we still see Have A Great Day because it's not part of the if condition.

```
What Is Your Age? 14
Have A Great Day
```

We group the Python code into blocks. A block starts and stop with the indent. So we must be careful how we ident our code. The next keyword is else: This helps our program to make a decision if someone is not 18 or older. Every statement indented under the else be executed when it's False. If not 18, then print("Sorry But You Are Not Old Enough To Vote"). print("Please Come Back When You Are 18 Or Older").

```
if age >= 18:
  print("Confirm You Can Vote")
  print("Then Go Vote")
else:
  print("Sorry But You Are Not Old Enough To Vote")
  print("Please Come Back When You Are 18 Or Older")
print("Have A Great Day")
```

Now, I'm going to run but at this point, we have satisfied both conditions. When the condition is True, Python will execute our print statements under the if statement. When the condition evaluates to False then Python will ignore the print statements under the if statement then execute the print statements under the else statement. Now, I'm going to run and see what happens when I enter age as 15, Sorry But You Are Not Old Enough To Vote, Please Come Back When You Are 18 Or Older, Have A Great Day.

```
What Is Your Age?15
Sorry But You Are Not Old Enough To Vote
Please Come Back When You Are 18 Or Older
Have A Great Day
```

Run Again. This time the age is 81, Confirm You Can Vote, Then Go Vote, Have A Great Day.

```
What Is Your Age?81
Confirm You Can Vote
Then Go Vote
Have A Great Day
```

I have a shortcut for the if - else statement. It's called a Ternary if statement. We write the variable outcome = then a value like True. True is a Boolean value that will be followed by a condition. The condition is if age>= 18. The purpose of a Ternary if statement is to make our code concise. So far, our satisfies the True value if the age is greater than or equal to 18 else False. We must make the Boolean value inside this print statement a string. So I'm going to write ("Can You Vote? ") and write + to append the str(outcome) + "\n").

```
age = int(input("What Is Your Age?"))
outcome = True if age >= 18 else False

print("Can You Vote? " + str(outcome) + "\n")
```

Let's Run. What Is Your Age? 34, Can You Vote? True, Confirm You Can Vote, Then Go Vote, Have A Great Day.

```
What Is Your Age?34
Can You Vote? True

Confirm You Can Vote
Then Go Vote
Have A Great Day
```

Run again. 12 Can You Vote? False, Sorry But You Are Not Old Enough To Vote, Please Come Back When You Are 18 Or Older, Have A Great Day.

```
What Is Your Age? 12
Can You Vote? False

Sorry But You Are Not Old Enough To Vote
Please Come Back When You Are 18 Or Older
Have A Great Day
```

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