

In the name of Allah

Hello Everybody

Let's get started!

Types of control structures

1. Sequence
2. Branching (Selection)
3. Loop (Repetition)

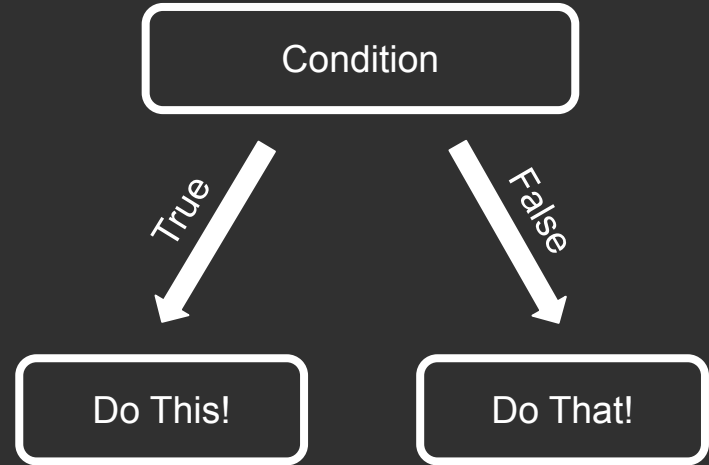
Branching

Conditional statement

a conditional statement is used to perform different actions based on certain conditions. It allows you to control the flow of your program by executing specific blocks of code depending on whether a given condition is true or false.

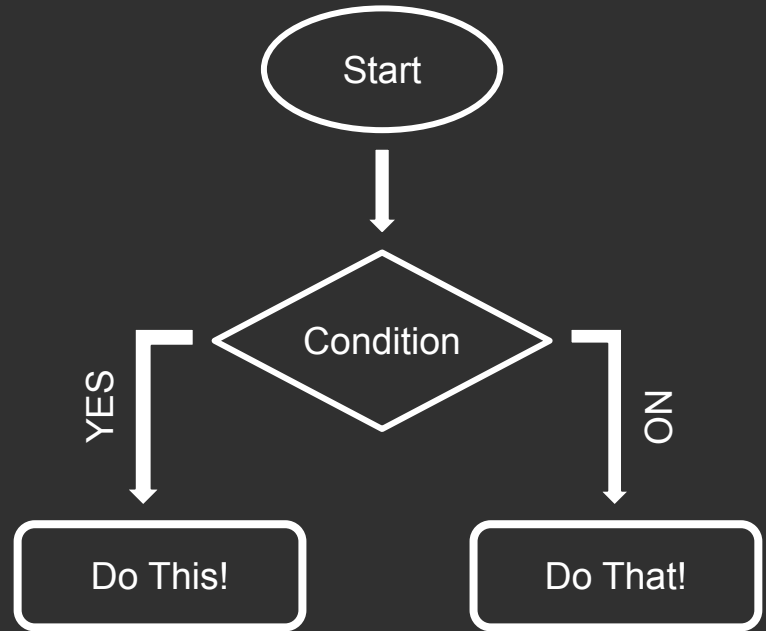
Condition

Conditional logic represents different paths a program can take based on some type of comparison of input



Flowchart

An if statement flowchart is a visual representation of a decision-making process in programming. It helps illustrate how a program evaluates a condition and selects between two or more possible paths based on whether that condition is true or false.



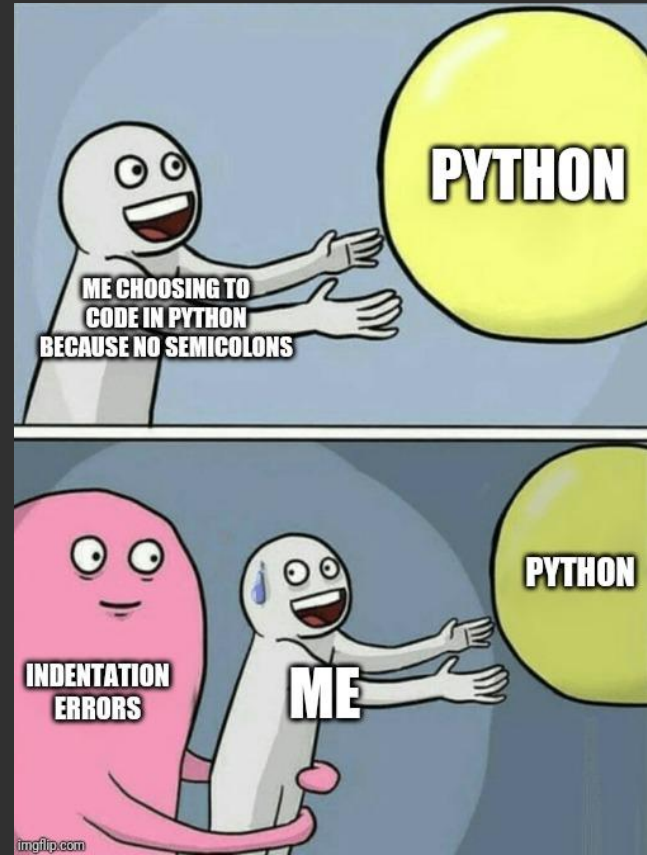
If statement

Conditional logic represents different paths a program can take based on some type of comparison of input

```
if condition:  
    # execute if the condition is true  
else:  
    # execute if the condition is false
```


Whitespace matters!

Indentation refers to the spaces, tabs, or a combination of both that you use at the beginning of a line to indicate the level of nesting or grouping of code blocks.



Multiple conditions

You can also include multiple conditions using the elif (short for "else if") statement, allowing for more complex decision-making

```
if condition:
    # execute if the condition is true
elif condition:
    # execute if the condition is true
else:
    # execute if the condition is false
```

Conditions in details

In python, a condition refers to an expression that evaluates to either **True** or **False**

Beside false conditional check, other things that are naturally False include: empty objects, empty sequences and collections like empty string, None, and zero

Example

```
character = input("What is your name?")

if character == "Harry Potter":
    print("You're a wizard, Harry!")
elif character == "Hermione Granger":
    print("You're the brightest witch of your age, Hermione!")
elif character == "Ron Weasley":
    print("You're a loyal friend, Ron!")
else:
    print("You're a Muggle or a non-main character.")
```

Exercise 1

Write a program to prompt the user for a number and determine whether the number is odd or even.

```
Please, enter a number: 12
```

```
12 is even.
```

```
Please, enter a number: 13
```

```
13 is odd.
```

Exercise 2

Write a program to prompt the user for his/her age and says that he/she can obtain driving licence.

```
Hello there,  
How old are you: 25
```

```
Fantastic! You now have the opportunity to obtain your  
driver's license. Enjoy the freedom of the open road  
and have a fantastic drive!
```

Exercise 2

Write a program to prompt the user for his/her age and says that he/she can obtain driving licence.

```
Hello there,  
How old are you: 14
```

```
Apologies, but you are currently underage to obtain a  
driver's license. We look forward to seeing you in 4  
years when you'll be eligible!
```

That's all for today!