

In the name of Allah

Hello Everybody

Let's get started!

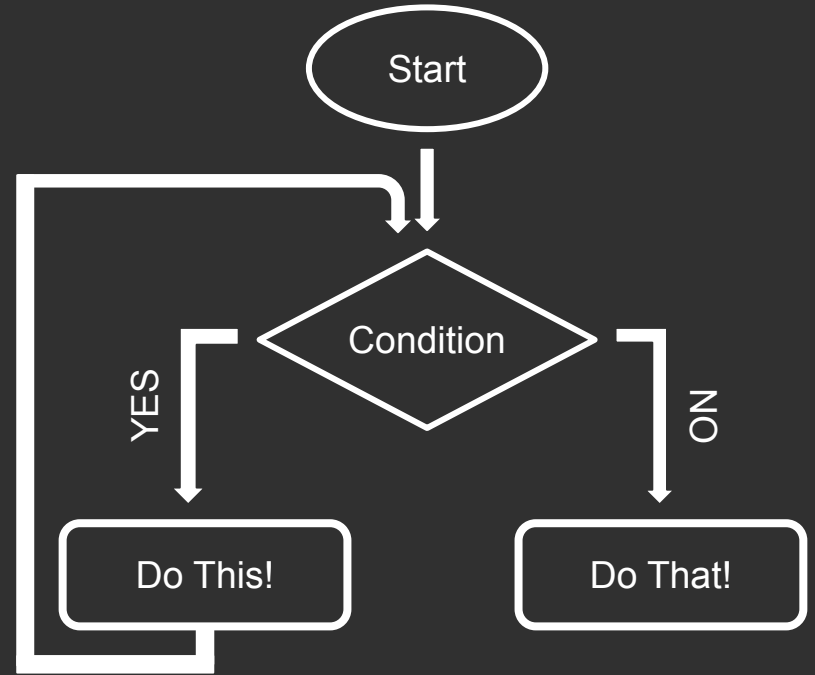
Types of control structures

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

Loop

Repetition

A loop statement flowchart is a graphical representation of a programming construct that allows a set of instructions to be executed repeatedly as long as a certain condition remains true.



While statement

The "while" syntax in Python is used to create a loop that repeatedly executes a block of code as long as a specified condition remains true.

```
while condition:  
    # execute the condition is true
```

Iterable object

An iterable object in Python is an object that can be looped over, meaning you can iterate through its elements one by one. It allows you to perform operations on each element within the object, such as looping through a list, tuple, string, or other data structures

For statement

The "for" syntax in Python is used to create a loop that iterates over elements in an iterable object, executing a specified block of code for each element in the iterable.

```
for variable in iterable_object:  
    # execute if the condition is true
```


Exercise 1

Write a "for" loop to print numbers from 1 to 10.

```
1  
2  
3  
4  
5  
6  
7  
8  
9  
10
```

Exercise 2

Write a "while" loop that repeatedly asks the user for a password until they enter the correct password "abc123".

```
Enter the password: secret
Incorrect password. Try again.
Enter the password: 123456
Incorrect password. Try again.
Enter the password: abc123
Welcome! Access granted.
```

That's all for today!

Exercise 3

Write a "for" loop to generate the Fibonacci series up to a specified number of terms.

Enter a number: 10

0, 1, 1, 2, 3, 5, 8, 13, 21, 34