MAC Address

- Media Access Control
  - Permanent.
  - Physical.
  - Unique.
- Assigned by manufacturer.

Why change the MAC Address?

1. Increase anonymity.
2. Impersonate other devices.
3. Bypass filters.

Mac = 00:11:11:11:11:11

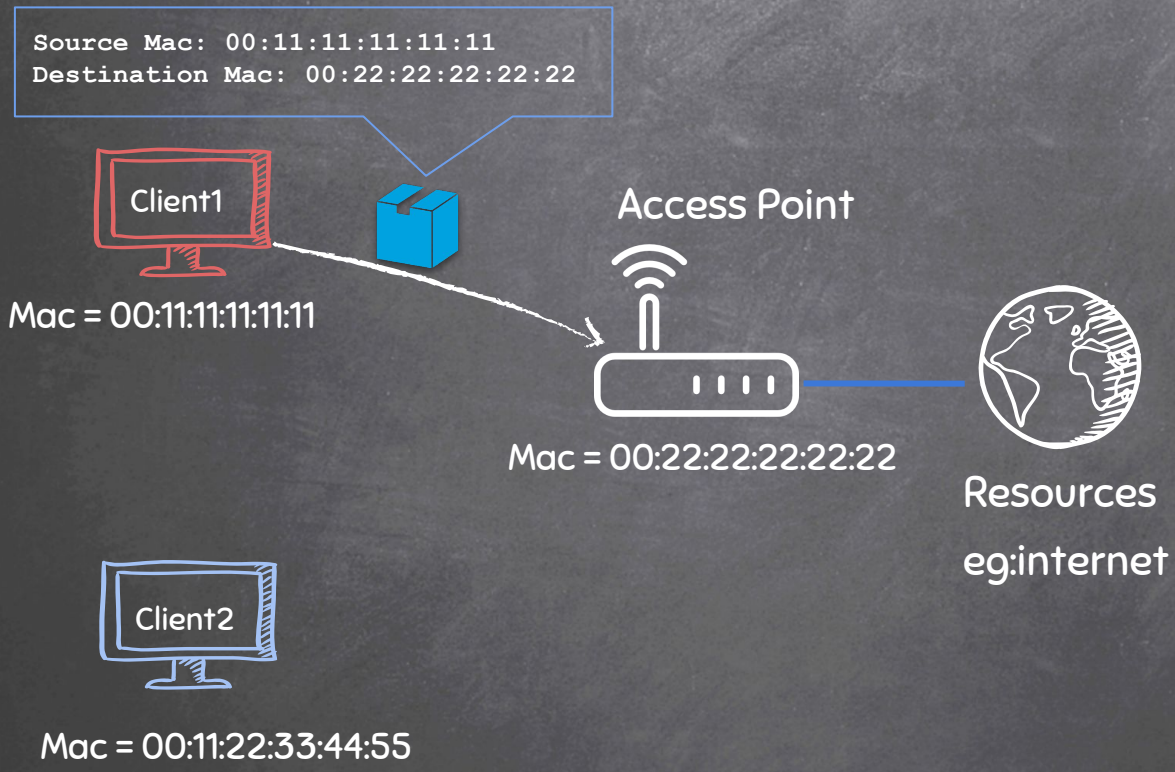
Access Point

Mac = 00:22:22:22:22:22

Resources

eg:internet

Mac = 00:11:22:33:44:55


Source Mac: 00:11:11:11:11:11
Destination Mac: 00:22:22:22:22:22
Client1
Mac = 00:11:11:11:11:11
Access Point
Mac = 00:22:22:22:22:22
Resources
eg:internet
Client2
Mac = 00:11:22:33:44:55

Mac_Changer

Using a Module To Execute System Commands

- The subprocess module contains a number of functions.
- These functions allow us to execute system commands.
- Commands depend on the OS which executes the script.

Syntax:

```
import subprocess
subprocess.call("COMMAND", Shell=True)
```

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Variables

- A variable is a location in memory that contains a certain value.
- Similar to maths, its a name that is used to store information.

Ex:

```
X = 1
```

Now x has a value of one, so we can do

```
Y = x + x
```

And y has a value of 2 now.

```
print(y)
```

Will print the value of y on screen which is 2.

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Handling User Input

- Easiest way of getting user input is through keyboard.
- There are a number of ways to achieve that.
- input() function prompts the user to enter a value.

Ex:

age = input("What is your age?")

Result

What is your age ?

The variable age will hold the value of the user input

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Functions

- Set of instructions to carry out a task.
- Can take input, and return result.
- Make the code clearer, reusable, and more abstract.
- input() function prompts the user to enter a value.

Ex, we can define a function like so:

```
def function_name(variable1, variable2 ...etc)
```

And call it in code like so:

```
function_name(value1, value2)
```

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Decision Making

- Execute code ONLY if a condition is true.

```
if condition:
    #Code to execute when
    #condition is true
else:
    #Code to execute when
    #condition is false

#Rest of code
```

```
if condition1:
    #Code to execute when
    #condition1 is true
elif condition2:
    #Code to execute when
    #condition2 is true AND
    #condition 1 is false
else:
    #Code to execute when
    #ALL conditions are FALSE
#Rest of code
```

```
if condition1:
    #Code to execute when
    #condition1 is true

if condition2:
    #Code to execute when
    #condition2 is true

#Rest of code
```

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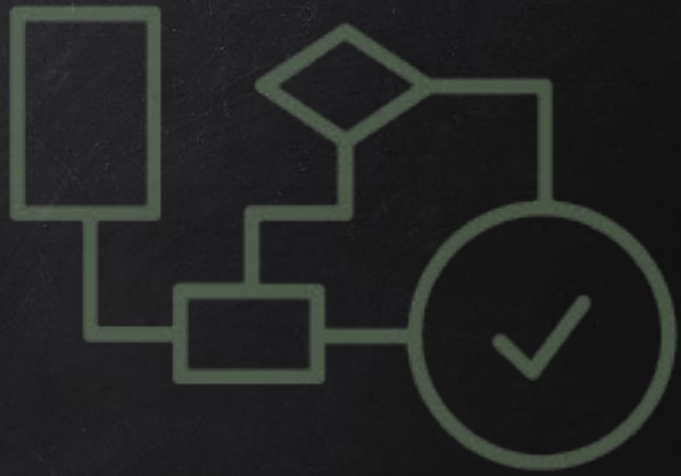
Simple Algorithm



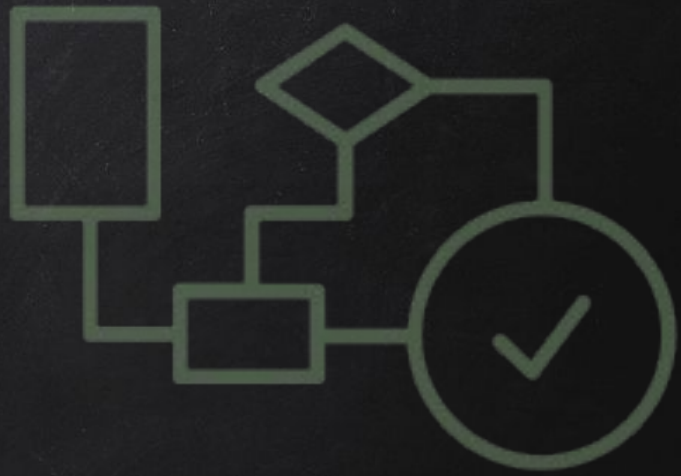
Goal → Check if MAC address was changed.

Setps:

1. Execute and read ifconfig.
2. Read the mac address from output.
3. Check if MAC in ifconfig is what the user requested.
4. Print appropriate message.

Mac_Changer

Simple Algorithm



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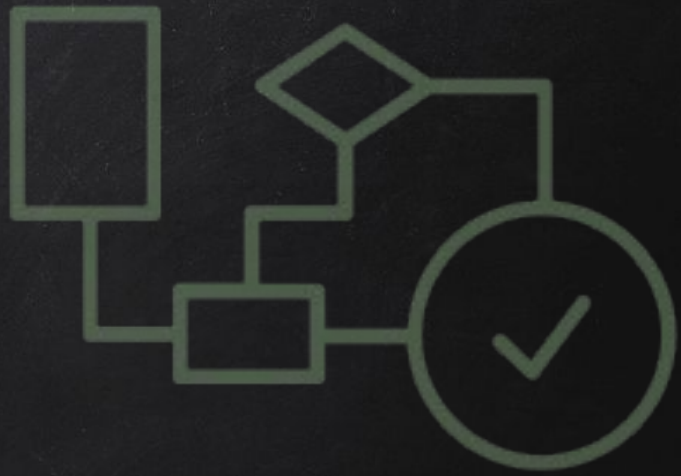

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Regular Expressions

- Search for specific patterns within a string.
- Uses rules to match pattern.

→ Great to tell a program what to look for in a large text.

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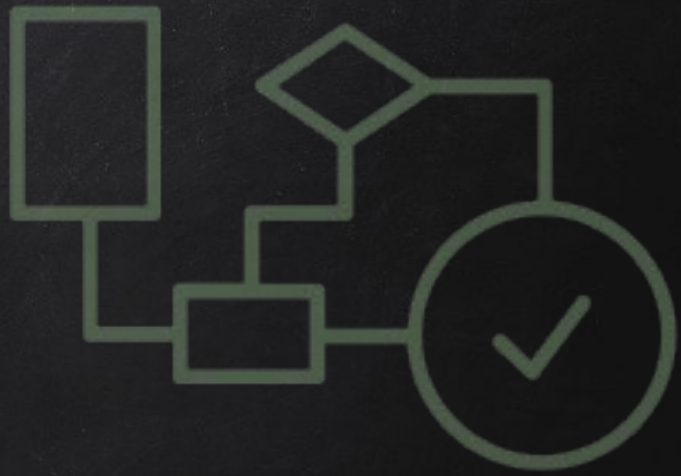
Simple Algorithm



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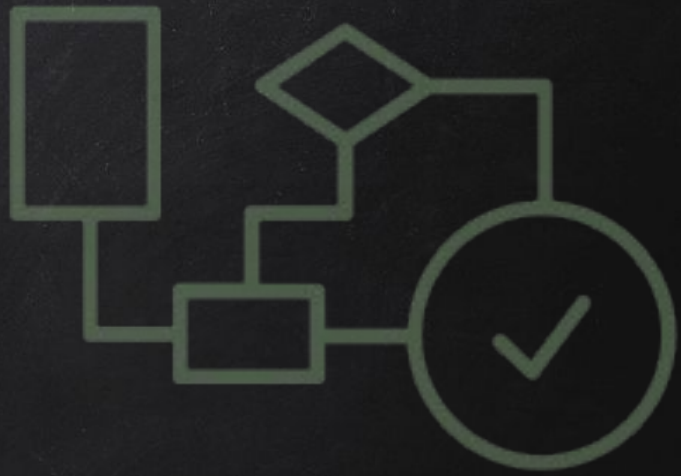

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