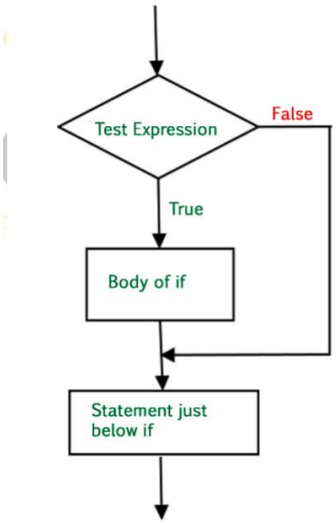
Conditional statements

If Statement:

The if statement is the most simple decision-making statement. It is used to decide whether a certain statement or block of statements will be executed or not.

Flowchart of If Statement Let's look at the flow of code in the Python If statements



Syntax of If Statement:

```
if condition:
   # Statements to execute if
   # condition is true
```

Example:

```
# if statement example
if 10 > 5:
   print("10 greater than 5")
print("Program ended")
```

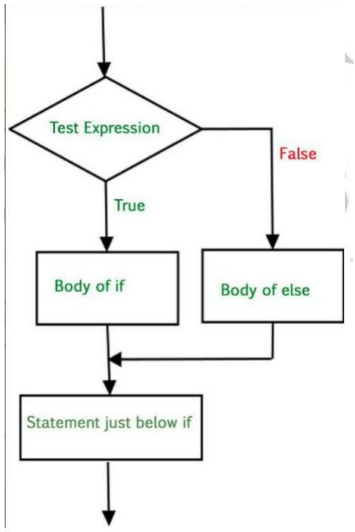
Output:

```
10 greater than 5
Program ended
```

Python If Else Statement

The if statement alone tells us that if a condition is true it will execute a block of statements and if the condition is false it won't. But if we want to do something else if the condition is false, we can use the else statement with the if statement Python to execute a block of code when the Python if condition is false

Flowchart of If Else Statement Let's look at the flow of code in an if else Python statement.



Syntax of Python If-Else:

```
if (condition):
    # Executes this block if
    # condition is true
else:
    # Executes this block if
    # condition is false
```

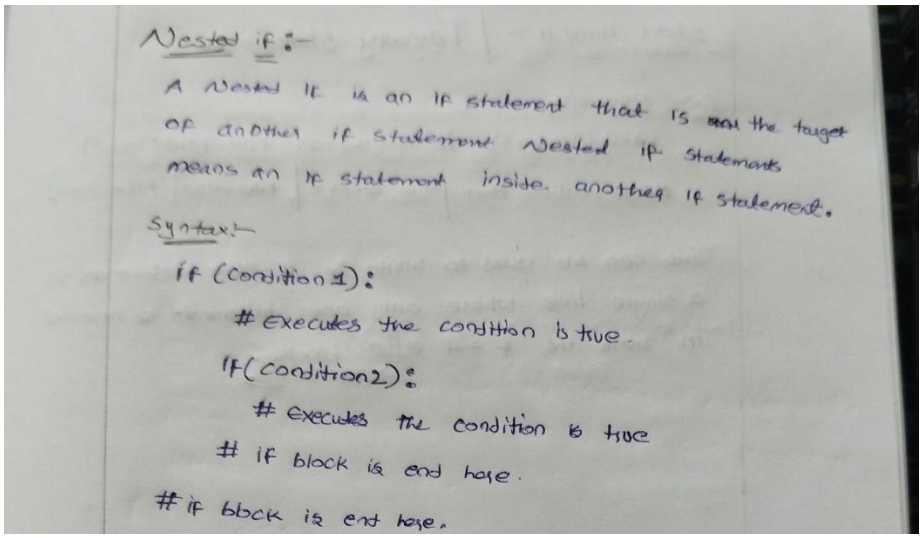
Example:

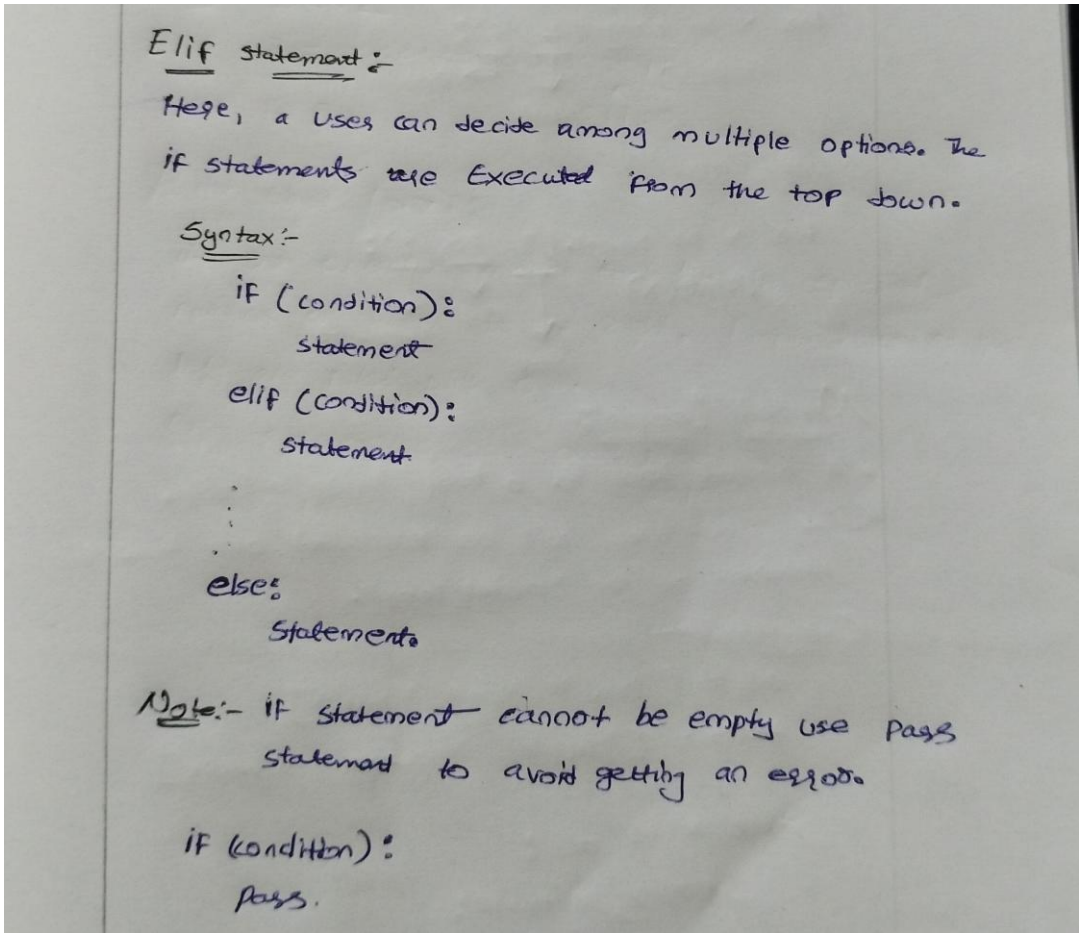
```
# if..else statement example
x = 3
if x == 4:
    print("Yes")
else:
    print("No")
```

Output: No

Python Nested If Statement

A nested if is an if statement that is the target of another if statement. Nested if statements mean an if statement inside another if statement.





Elif statement :-

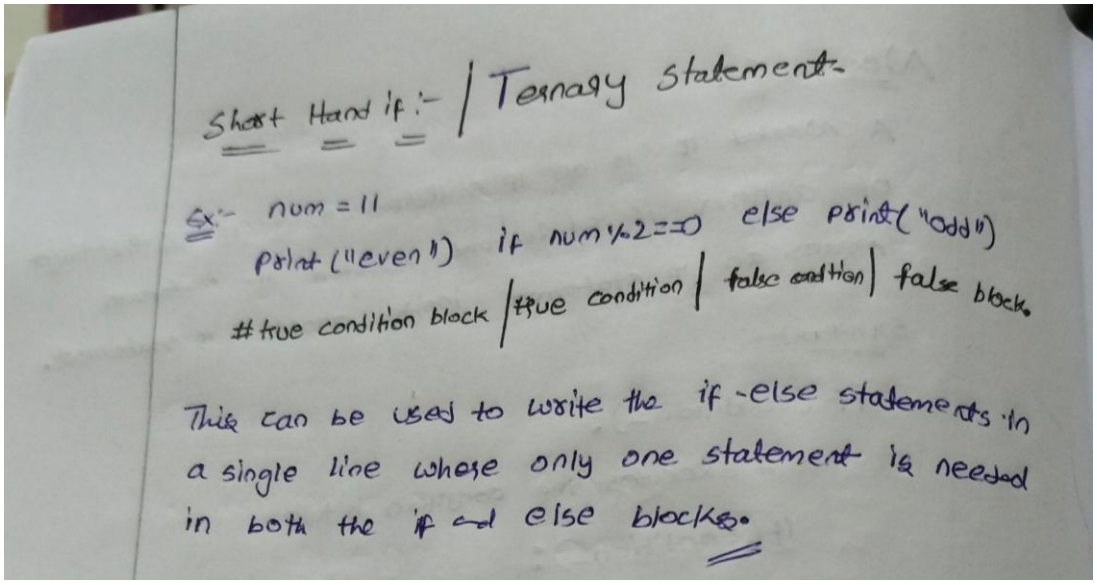
Here, a uses can decide among multiple options. The if statements are Executed from the top down.

Syntax :-

```
if (condition):
    statement
elif (condition):
    statement
    .
    .
    .
else:
    Statement.
```

Note :- if statement cannot be empty use pass statement to avoid getting an error.

```
if (condition):
    pass.
```



Short Hand if :- / Ternary Statement-

Ex :- num = 11

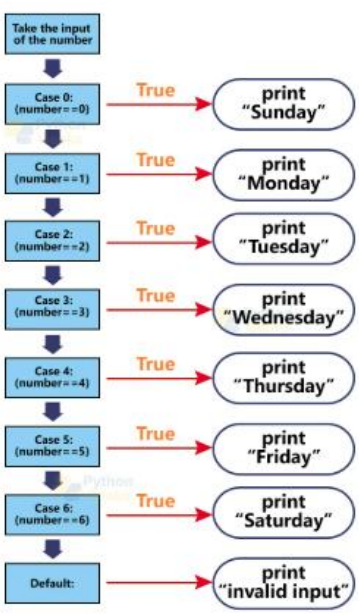
print ("even") if num%2==0 else print("odd")

true condition block / true condition / false condition / false block.

This can be used to write the if-else statements in a single line whose only one statement is needed in both the if and else blocks.

Switch cases:

In Python, the switch statement, commonly found in other programming languages, is not natively supported. However, you can achieve similar functionality using dictionaries and functions. Here's a simple example to illustrate how you can implement a switch-case-like structure in Python:



Example on implementing switch case using the dictionary:

```
1.  def vowel(num):
2.      switch={
3.        1:'a',
4.        2:'e',
5.        3:'i',
6.        4:'o',
7.        5:'u'
8.        }
9.      return switch.get(num,"Invalid input")
10.
11.  vowel(3)
12.
13.  vowel(0)
```

Output:

```
'i'

'Invalid input'
```