Control Statements

Control statements are used to control the flow of execution of program. Default flow of execution of program is sequential.
Control statements are classified 3 categories

1. Conditional Control Statements
    a. If
    b. match
2. Looping Control Statements
    a. While
    b. for
3. Branching Statements
    a. Break
    b. Continue
    c. Return

Conditional Control Statements

Conditional control statements are used to execute block of statements based on condition or boolean expression.

Python support 2 conditional control statements

1. If
2. Match

If statement

"if" is a keyword, which represents conditional control statement in python or conditional statement in python.
If statement is used to execute block of statements based on condition.

1. Simple if
2. If..else

3. If..elif..else (if..else ladder)
4. Nested if

Simple if

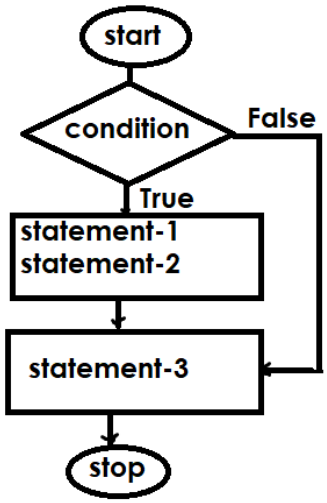
If without else is called simple if

Syntax:

```
if  condition:
    statement-1
    statement-2
statement-3
```

if condition is True, python executes statement-1,statement-2 and continue statement-3

if condition is False, python continue by executing statement-3



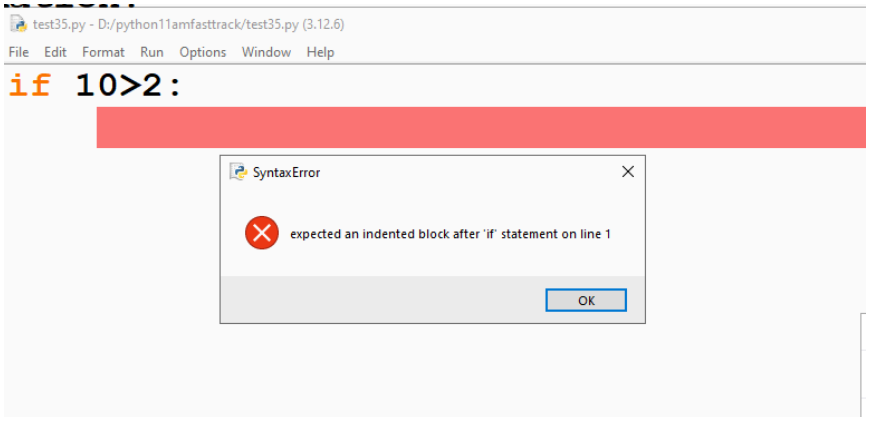
Example:

```
if 10>5:
    print("Hello")
if 20>50:
    print("Bye")
```

Output

Hello

Empty blocks are not allowed in python, a block must have at least one statement.



pass statement
"pass" is a keyword in python
This keyword is used to represent empty blocks in python
Pass statement does not perform any operation (null operation)
Pass means do-nothing operation.

Example:

```
if 10>2:
    pass


print("ONE")
print("TWO")
```

Output
ONE
TWO

If..else

This syntax is having two blocks

1. if block
2. else block

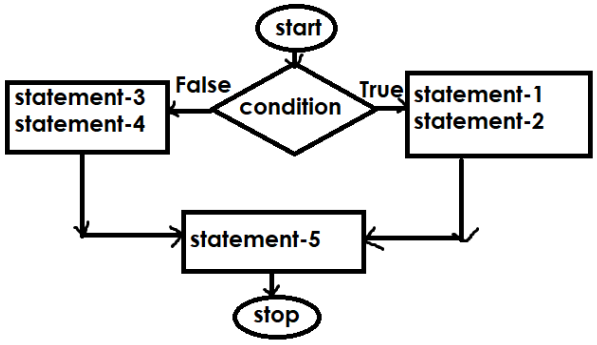
Syntax:

```
if condition:
   statement-1
   statement-2
else:
   statement-3
   statement-4

statement-5
```

if condition is True, python executes statement-1,statement-2 and statement-5

if condition is False, python executes statement-3, statement-4 and statement-5



Example:

```
if True:
    print("PYTHON")
```

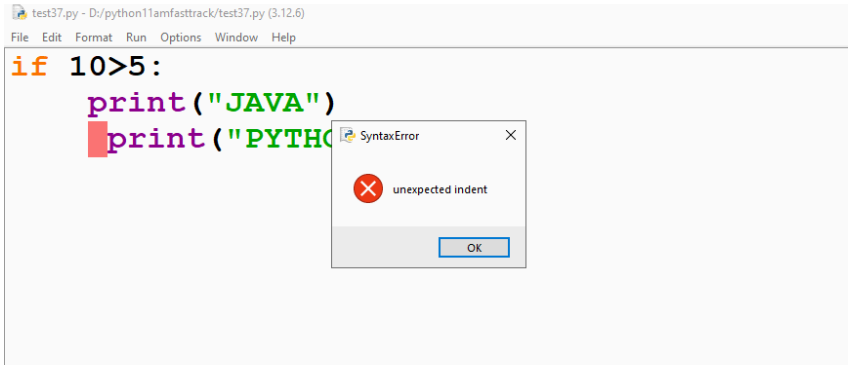
```
else:
    print("JAVA")


if False:
    print("Hello")
else:
    print("Bye")
```

Output

PYTHON
Bye

Note: all the statements within block must be at same indentation level



Example:

```
# Write a program to input name,age and
# find is elg to vote or not

name=input("Enter Name :")
age=int(input("Enter Age :"))
if age>=18:
```

```
    print(name,"elg to vote")
else:
    print(name,"not elg to vote")
```

Output

```
Enter Name :naresh
Enter Age :50
naresh elg to vote

Enter Name :suresh
Enter Age :10
suresh not elg to vote
```

Example:

```
# Write a program to login with OTP number

import random
name=input("Name :")
otp=random.randint(1000,9999)
print("Login with ",otp,"Number")
iotp=int(input("Input OTP Number :"))
if otp==iotp:
    print("Welcome")
else:
    print("Wrong OTP Number")
```

Output

```
Name :naresh
Login with  8327 Number
Input OTP Number :8327
Welcome
```

Name :suresh
Login with 6689 Number
Input OTP Number :6688
Wrong OTP Number

Example:

```
# Write a program to login with username and password

uname=input("UserName :")
pwd=input("Password :")

if uname=="naresh" and pwd=="n123":
    print("Welcome")
else:
    print("Invalid username or password")
```

Output

UserName :naresh
Password :n321
Invalid username or password

UserName :suresh
Password :n123
Invalid username or password

Example:

```
# Write a program to find input number is even or odd

num=int(input("Enter Any Number "))
r=num%2
if r==0:
```

```
    print(num,"is even")
else:
    print(num,"is odd")
```

Output

```
Enter Any Number 9
9 is odd

Enter Any Number 8
8 is even
```

Example:

```
# Write a program to find last digit of number is
# divisible with 3 or not

num=int(input("Enter any number "))
last_digit=num%10
r=last_digit%3
if r==0:
    print("Divisible")
else:
    print("Not divisible")
```

Output

```
Enter any number 129
Divisible

Enter any number 127
Not divisible
```

Example:

```
# Write a program to find input amount is multiples
```

```
# of 500 or not

amount=int(input("Amount :"))
if (amount%500)==0:
    print("Mulitples of 500")
else:
    print("Not Multiples of 500")
```

Output

```
Amount :1000
Mulitples of 500

Amount :1200
Not Multiples of 500
```

If..elif..else (if..else ladder)