**f-string**

f-string or formatted string is introduced in python 3.6 version
string which is prefix with “f” or “F” is called formatted string
formatted string consist of characters and replacement field and each replacement field is defined using {} curly braces
Replacement field is having expression/variable and format character

**Example:**

```
a=10
b=5
print(f'sum of {a} and {b} is {a+b}')
print('sum of %d and %d is %d'%(a,b,a+b))
print('sum of {} and {} is {}'.format(a,b,a+b))
print(f'diff of {a} and {b} is {a-b}')
```

**Output:**

```
sum of 10 and 5 is 15
sum of 10 and 5 is 15
sum of 10 and 5 is 15
diff of 10 and 5 is 5
>>>
```

**Example:**

```
a=65
print(f'decimal integer {a:d}')
print(f'octal integer {a:o}')
print(f'hexadecimal integer {a:x}')
print(f'binary integer {a:b}')
b=1.4567
print(f'float value {b:f}')
print(f'float value {b:.2f}')
c=1.4e-2
print(f'expo value {c:.2e}')
```

**Example:**

```
# write a program to find area of circle
r=float(input("Enter the value r"))
print(f'area of circle is {3.147*r*r:.2f} with r value {r:.2f}')
```

**Output**

```
Enter the value r1.5
area of circle is 7.08 with r value 1.50
```

>>>

**Control Statements or control structures**

Control statements are used to control the flow of execution of program.
Control statements are three types.

1. Conditional statements
    a. If
    b. match (python 3.10)
2. Loop control statements
    a. While
    b. for
3. Branching statements
    a. Break
    b. Continue

**Conditional statements**

Conditional statements are used to execute a block of statements based on condition.
As part of python there is 2 conditional statements

1. If
2. match

**if statement**

If is a conditional statement, this statement is used to execute block of statements based on some condition.
Types of if

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
this syntax is having only if block

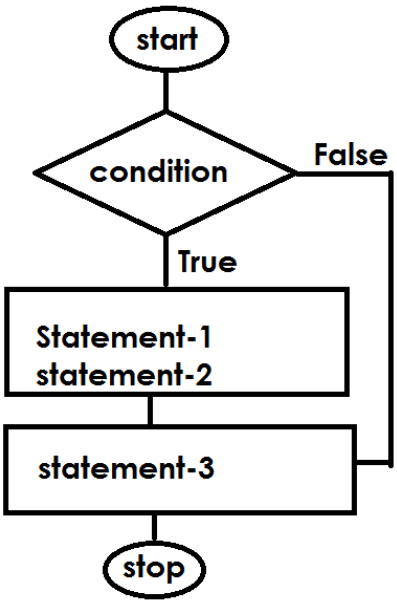
**syntax:**

```
if <condition>:
  statement-1
```

statement-2

statement-3

if condition is true, it execute statement-1,statement2 and statement-3
if condition is false, it execute statement-3




Note: in python empty blocks are not allowed

**Example:**

```
if 100>10:
    print("Python")
print("Java")

if 100>200:
    print("Python")
print("Oracle")

if 100>50:
    pass
print("Java")
```

**Output:**

```
Python
Java
Oracle
Java
>>>
```

**pass**

“pass” is a keyword.

pass is a null operation — when it is executed, nothing happens. It is useful as a placeholder when a statement is required syntactically, but no code needs to be executed

**Example:**

```
if True:
    pass
    print("Hello")

print("Bye")
```

**Output:**

```
Hello
Bye
>>>
```