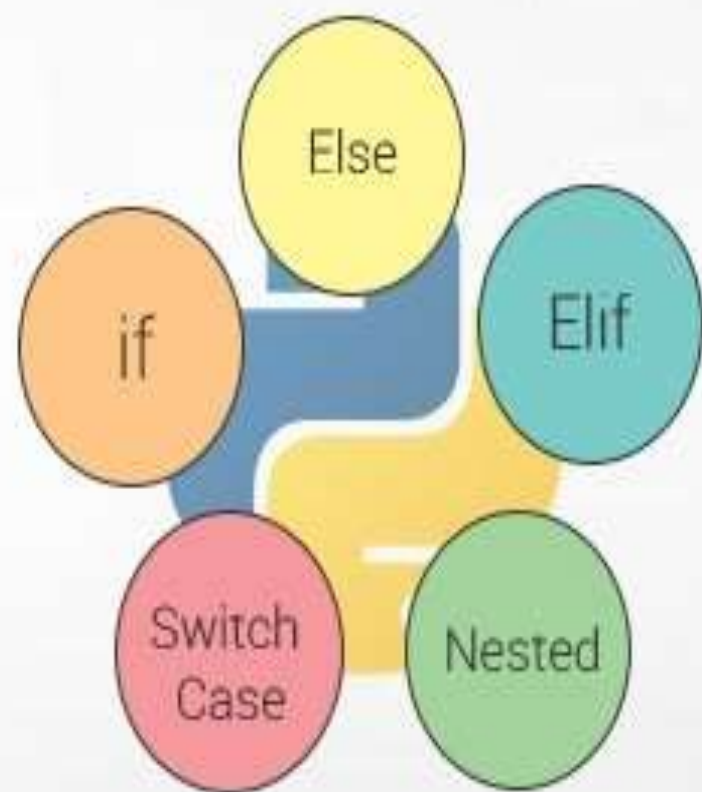


# Python

## Conditional Statements



# If Statement

The If statement is the most fundamental decision-making statement, in which the code is executed based on whether it meets the specified condition. It has a code body that only executes if the condition in the if statement is true. The statement can be a single line or a block of code.

## **syntax:**

```
if expression  
    Statement
```

```
a = 33  
b = 200
```

```
if b > a:  
    print("b is greater than a")
```

# If Else Statement

This statement is used when both the true and false parts of a given condition are specified to be executed. When the condition is true, the statement inside the if block is executed; if the condition is false, the statement outside the if block is executed.

## **syntax:**

```
if condition :  
    #Will executes this block if the condition is true  
else :  
    #Will executes this block if the condition is false
```

```
a = 33  
b = 200  
  
if b > a:  
    print("b is greater than a")
```

# Short Hand If Statement

## **syntax:**

if condition : Statement

```
a = 200
```

```
b = 33
```

```
if a > b: print("a is greater than b")
```

# Short Hand If ... Else

## **syntax:**

Statement if condition else Statement if condition else Statement

```
a = 330
```

```
b = 3300
```

```
print("A") if a > b else print("C")
```

```
print("A") if a > b else print("=") if a == b else print("B")
```

```
#C
```

```
#B
```

# If...Elif..else Statement

This statement is used when both the true and false parts of a given condition are specified to be executed. When the condition is true, the statement inside the if block is executed; if the condition is false, the statement outside the if block is executed.

## **syntax:**

if condition :

    Body of if

elif condition :

    Body of elif

else:

    Body of else

```
num = 7
if num > 0:
    print("Positive number")
elif num == 0:
    print("Zero")
else:
    print("Negative number")
```

# Nested IF Statement

This statement is used when both the true and false parts of a given condition are specified to be executed. When the condition is true, the statement inside the if block is executed; if the condition is false, the statement outside the if block is executed.

## **syntax:**

```
if (condition1):  
    #Executes if condition 1 is true  
    if (condition 2):  
        #Executes if condition 2 is true  
        #Condition 2 ends here  
    #Condition1 ends here
```

```
x = 4  
if x > 10:  
    print("Above ten,")  
    if x > 20:  
        print("and also above 20!")  
    else:  
        print("but not above 20.")  
else:  
    print("but not above 10")
```

# Python Loops

while loops  
for loops

## **syntax:**

```
while (condition1):  
    #while block of code
```

```
i = 1  
while i < 6:  
    print(i)  
    i += 1
```

## **syntax:**

```
for variable operators range(6):  
    #for block of code
```

```
for x in range(6):  
    print(x)
```

```
for x in range(2, 30, 3):  
    print(x)
```

# Else in For Loop

```
for x in range(6):  
    print(x)  
else:  
    print("Finally finished!")
```

```
0  
1  
2  
3  
4  
5  
Finally finished!
```

# Nested Loops

```
adj = ["red", "big", "tasty"]  
fruits = ["apple", "banana", "cherry"]
```

```
for x in adj:  
    for y in fruits:  
        print(x, y)
```

```
red apple  
red banana  
red cherry  
big apple  
big banana  
big cherry  
tasty apple  
tasty banana  
tasty cherry
```

# Python Loops

```
n = 5
for i in range(0, n):
    # inner loop to handle number of columns
    # values changing acc. to outer loop
    for j in range(0, i+1):
        # printing stars
        print("* ",end="")
    # ending line after each row
    print("\r")
```

```
*
* *
* * *
* * * *
* * * * *
```

# The pass Statement

```
a= [0, 1, 2]  
for x in a:  
    pass
```

# The break Statement

```
fruits = ["apple", "banana", "cherry"]
for x in fruits:
    print(x)
    if x == "banana":
        break
```

apple  
banana

```
i = 1
while i < 6:
    print(i)
    if (i == 3):
        break
    i += 1
```

1  
2  
3

# The continue Statement

```
fruits = ["apple", "banana", "cherry"]
for x in fruits:
    if x == "banana":
        continue
    print(x)
```

apple  
cherry

```
i = 0
while i < 6:
    i += 1
    if i == 3:
        continue
    print(i)
```

1  
2  
4  
5  
6