Python

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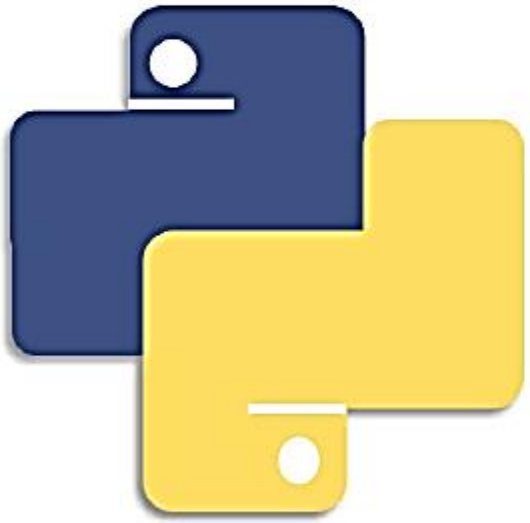


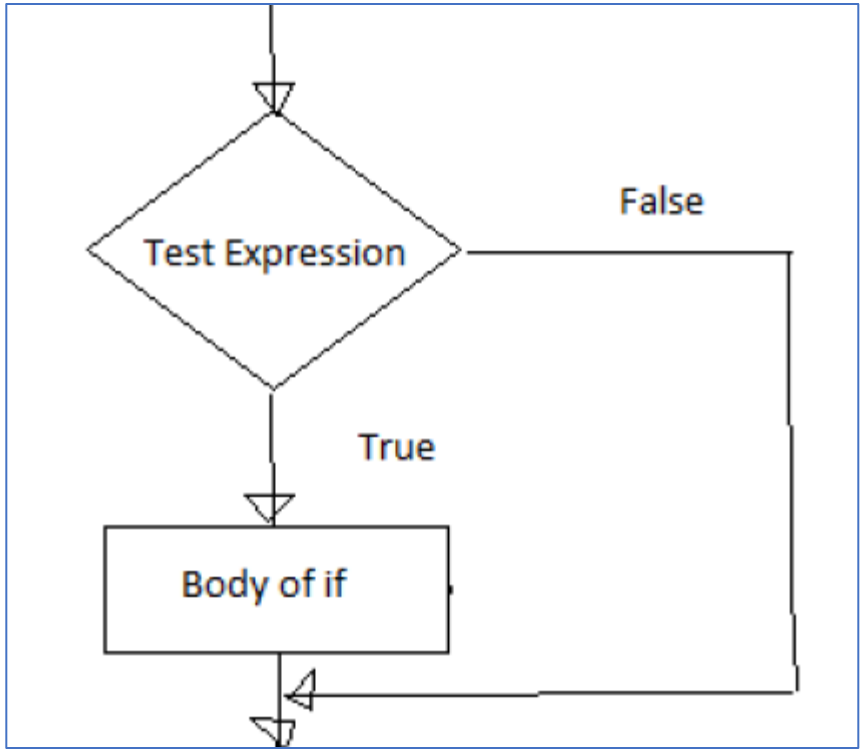
Python Programming

Conditional Statements

Conditional (if)

- The if statement contains a logical expression using which data is compared and a decision
- is made based on the result of the comparison.
- Syntax:
- if expression:
- statement(s)
- If the boolean expression evaluates to TRUE, then the block of statement(s) inside the if
- statement is executed. If boolean expression evaluates to FALSE, then the first set of
- code after the end of the if statement(s) is executed.

if Statement Flowchart:



Conditional (if)

- **Example: Python if Statement**

```
a = 3
if a > 2:
 print(a, "is greater")
print("done")
a = -1
if a < 0:
 print(a, "a is smaller")
print("Finish")
```

```
3 is greater
done
-1 a is smaller
Finish
```

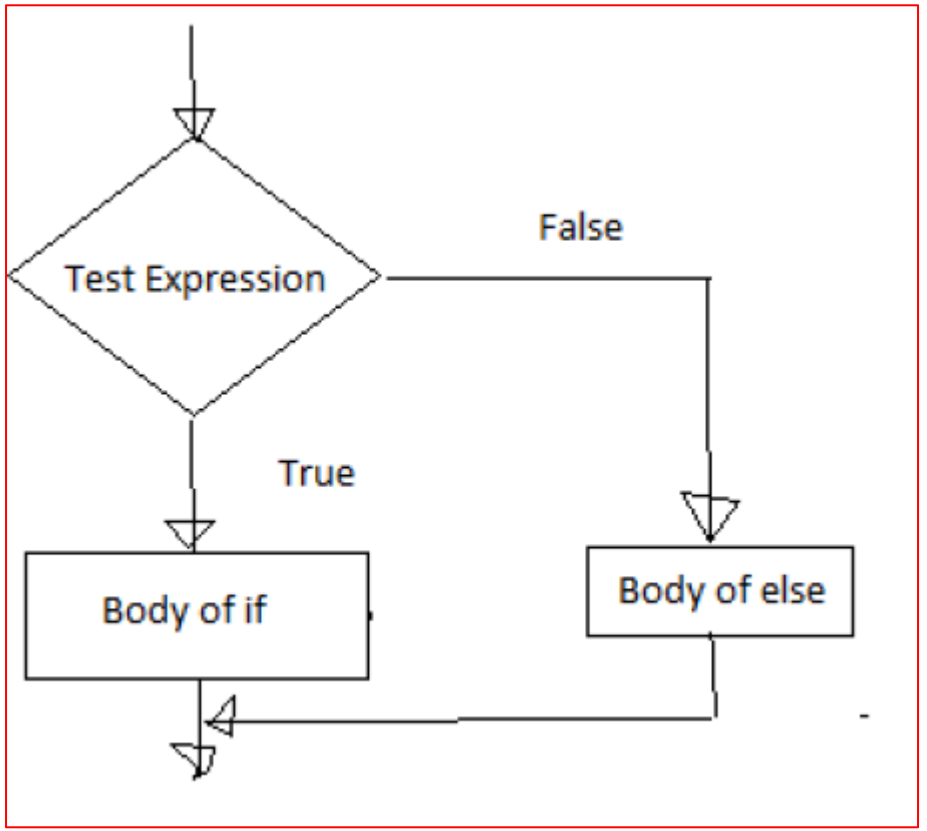
Conditional (if)

Alternative if (If-Else):
An else statement can be combined with an if statement. An else statement contains the block of code (false block) that executes if the conditional expression in the if statement resolves to 0 or a FALSE value.
The else statement is an optional statement and there could be at most only one else Statement following if.

Syntax of if - else :

```
if test expression:
        Body of if stmts
else:
        Body of else stmts
```

If - else Flowchart



Conditional (if)

```
a=int(input('enter the number'))
if a>5:
 print("a is greater")
else:
 print("a is smaller than the input given")
```

```
enter the number 5
a is smaller than the input given
```

```
a=10
b=20
if a>b:
 print("A is Greater than B")
else:
 print("B is Greater than A")
```

```
B is Greater than A
```

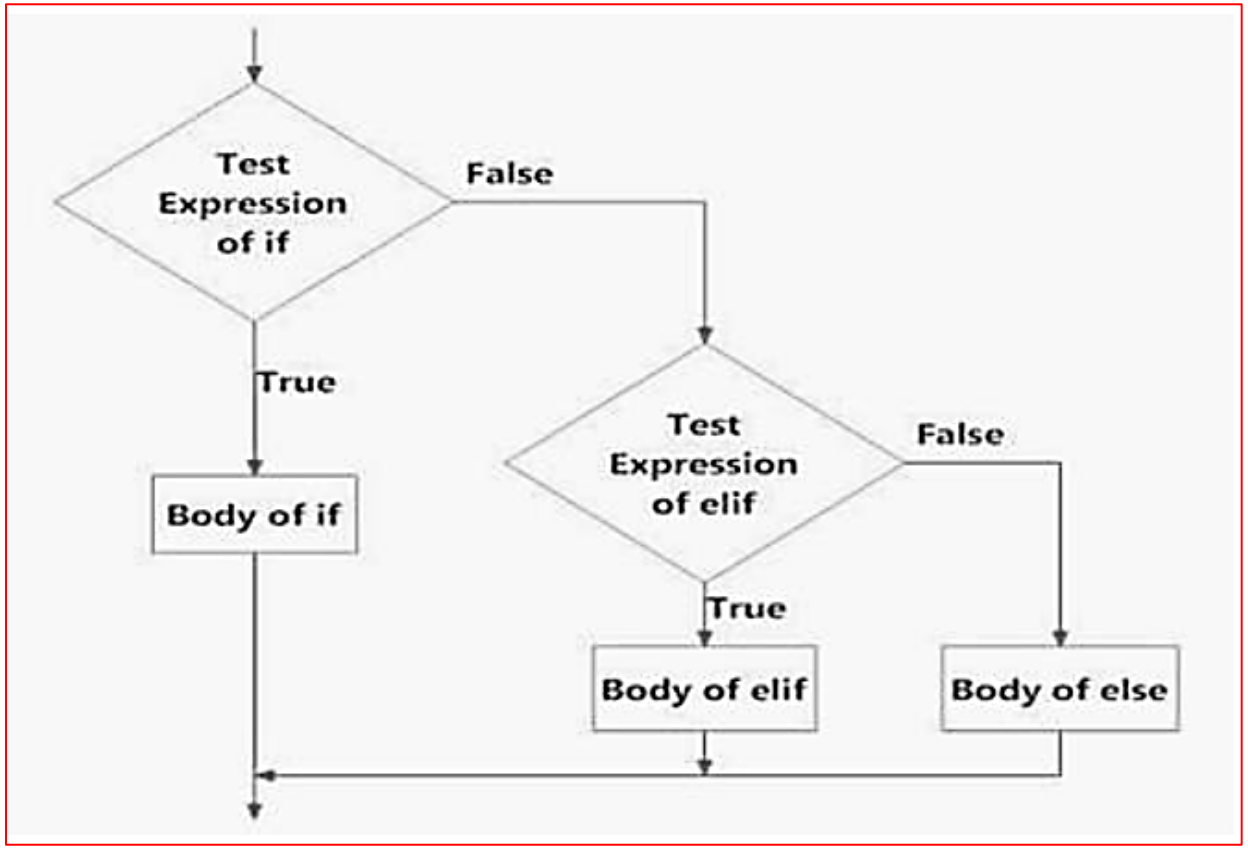
Conditional (if)

Chained Conditional: (If-elif-else):
The elif statement allows us to check multiple expressions for TRUE and execute a block of code as soon as one of the conditions evaluates to TRUE. Similar to the else, the elif statement is optional. However, unlike else, for which there can be at most one statement, there can be an arbitrary number of elif statements following an if.

Syntax of if – elif - else :

```
If test expression:
        Body of if stmts
elif test expression:
        Body of elif stmts
else:
        Body of else stmts
```

Flowchart of if – elif - else:



Conditional (if)

```
a=int(input('enter the number'))
b=int(input('enter the number'))
c=int(input('enter the number'))
if a>b:
    print("a is greater")
elif b>c:
    print("b is greater")
else:
    print("c is greater")
```

```
enter the number 3
enter the number 4
enter the number 5
c is greater
```

```
var = 100
if var == 200:
 print("1 - Got a true expression value")
 print(var)
elif var == 150:
 print("2 - Got a true expression value")
 print(var)
elif var == 100:
 print("3 - Got a true expression value")
 print(var)
else:
 print("4 - Got a false expression value")
 print(var)
print("Good bye!")
```

```
3 - Got a true expression value
100
Good bye!
```