

* Conditional statements :-

1. If
2. If else.
3. If else ladder (else-if ladder)
4. nested if else.

1) If statement:-

used when you want to run a block of code, only if a condition is true.

ex:- age = 20

if age ≥ 18 :

print ("you are eligible to vote").

2) if - else statement.

used when you want to run one block if condition is true, and another block if it is false.

ex:-

age = 15

if age >= 18:

 print ("you are eligible to vote.")

else:

 print ("you are not eligible to vote.")

3) if - elif - else ladder (else-if ladder)

* used when you need to check multiple conditions one by one.

- first true condition executes, rest are ignored.

ex:- marks = 72

if marks >= 90:

 print ("Grade A")

elif marks >= 75:

 print ("Grade B")

elif marks >= 50:

 print ("Grade C")

else:

 print ("Grade D").

4) Nested if - else:-

* means an if statement inside another if or else block.

- useful for checking dependent conditions.

ex:- age = 25

citizen = True.

if age >= 18:

 if citizen:

 print ("you are eligible to vote.")

 else:

 print ("you must be a citizen to vote.")

else:

 print ("you are not eligible to vote.").
 →

- * • if → single condition

- if - else → two-way decision

- if - elif - else ladder → multiple conditions.

- nested if - else → condition inside another condition.

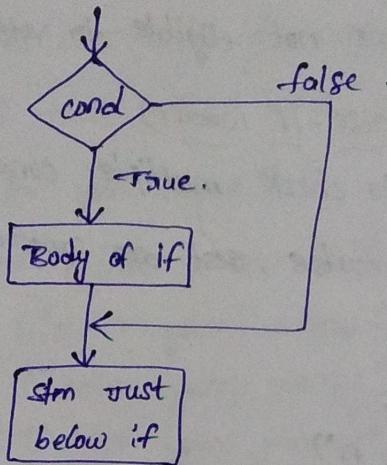
Block diagrams of Conditional statements:-

1) if stm:-

An if stmt is used when a block of code needs to be executed only if a specific condition evaluates to true.

Syntax:- if condition :

statement to execute if condition is true.



Ex:- if $10 > 5$:

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print ("10 greater Than 5")
print ("program ended").
```

O/P:- 10 greater
program ended

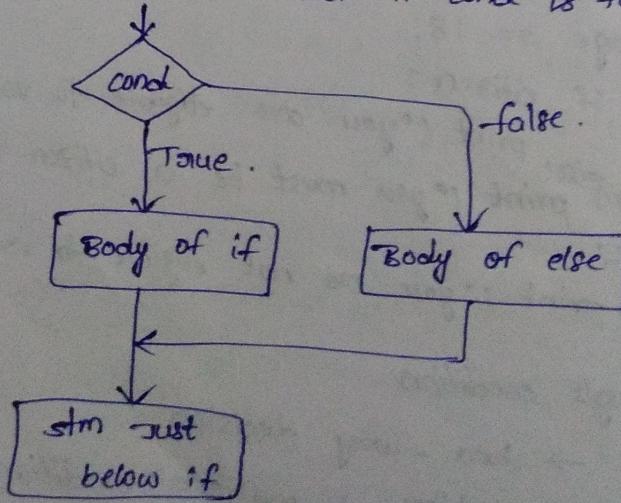
2) if else stm:-

In conditional if stmt the additional block of code is merged else stmt which is performed when if condition is false.

Syntax:- if (condition):

executes this block if cond is true.
else:

executes this block if cond is false.



ex:-

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x = 3
if x == 4:
    print ("yes")
else:
    print ("No").

```

O/P:- No

3) if - elif - else :-

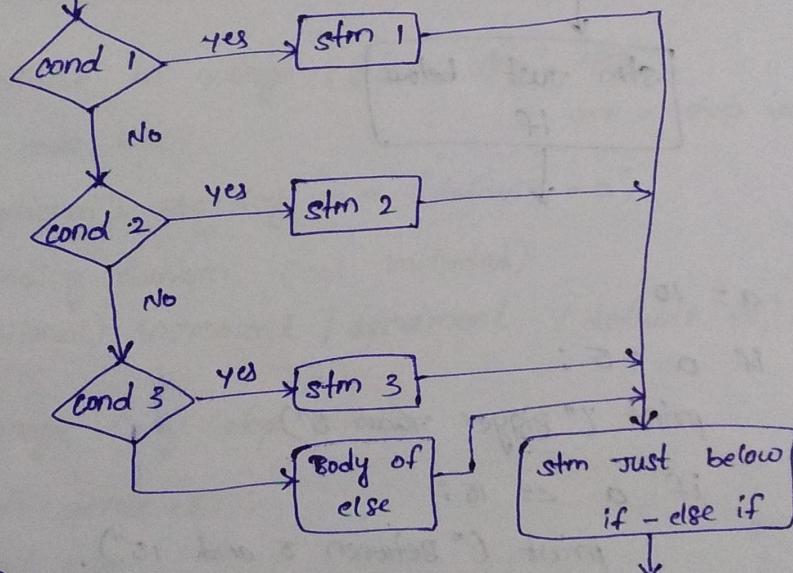
The if - elif - else stmt is a shortcut for chaining multiple if - else cond. when using if - elif - else stmt at the end else block is added which is performed if none of above if - elif - else stmt is true.

Syntax :-

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if (condition):
    stm
elif (condition):
    stm
else:
    stm

```



ex:-

```

x = 10
y = 5
if x > 5:

```

 if y > 5:

 print ("x is greater than 5")

 elif y == 5

 print ("x is greater than 5 and y is 5")

 else:

 print ("x is greater than 5 and y is less than 5").

O/P:-

x is greater than 5 and y is 5.

4) Nested if stm:-

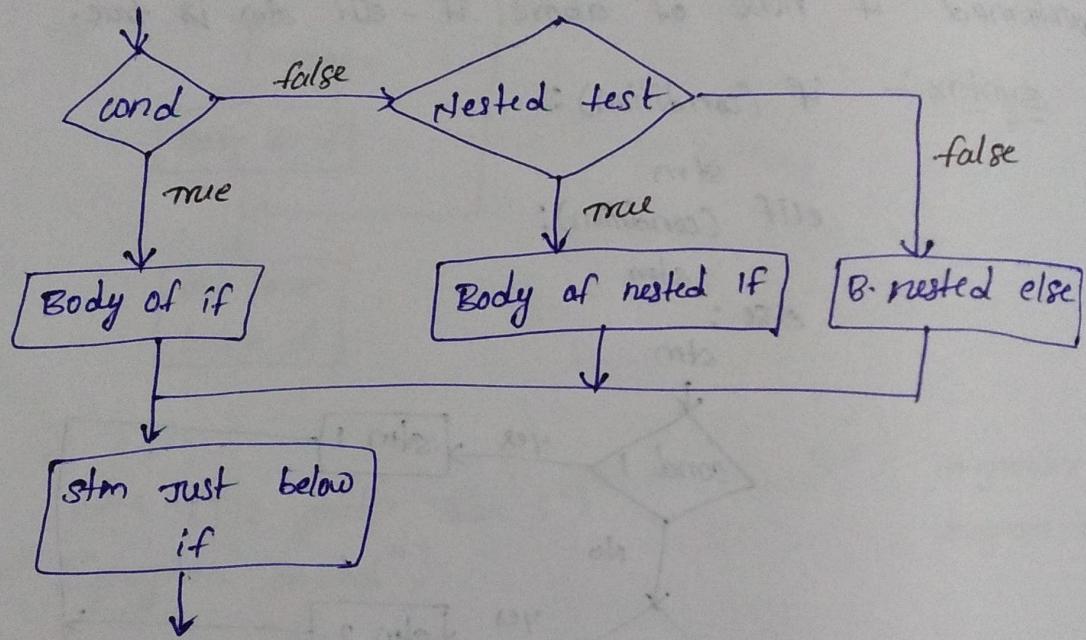
If stm can also be checked inside other if stm. This condition
stm is called a nested if stm. This means inner if cond will
only be checked if the outer if cond is true.

Syntax:- if (cond 1):

executes when cond 1 is true.

if (cond 2):

executes when cond 2 is true.



Ex:- a = 10

if a > 5;

print ("Bigger than 5")

if a <= 15:

print ("Between 5 and 15").

O/P:- Bigger than 5

Between 5 and 15.