

Flow Control : If, Elif, Else



Flow Control

In any program Flow control is basically a sequence in which our program runs.

It may involve some conditions, instructions to repeat certain operations or a condition to break the code.

Flow control statements are divided into three categories:

1) **Conditional statements** : Conditional statements are used to run a block of code if a particular condition is true or not. It will always evaluate to either True or False and accordingly execution will be performed.

Example : if, if-else, nested if-else

2) **Iterative Statements**: These statements are used when we want to run a piece of code repetitively till a certain condition is true.

Example : for, while

3) **Transfer Statements** : Transfer statements are used when we want to break the execution of the code if a particular condition is true.

Example : break, continue, pass

Conditional Statements : if

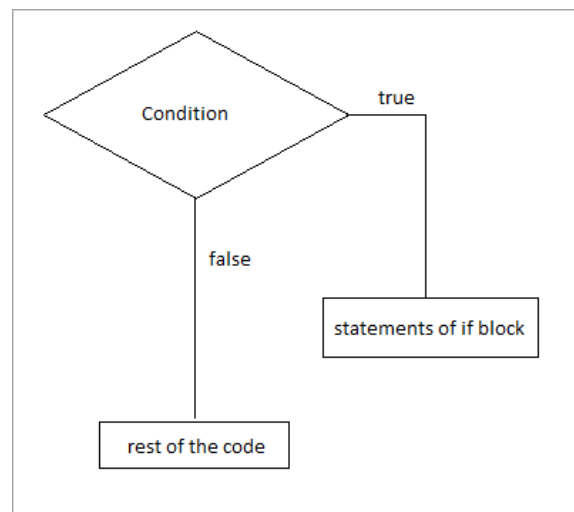
We use 'if' statement when we want to execute a piece of code if and only if a particular given condition holds true.

Here, the program evaluates the condition and will execute statement(s) only if the test expression is True. If the test expression is False, the statement(s) is not executed.

Syntax :

if (Condition):
if block expressions

Flow Chart:



Conditional Statements : if-else

- In if...else condition we have two pieces of code.
- The if... else statement evaluates test expression and will execute the body of if only when the condition is True.
- If the condition is False, the body of else is executed. Indentation is used to separate the blocks.

Syntax :

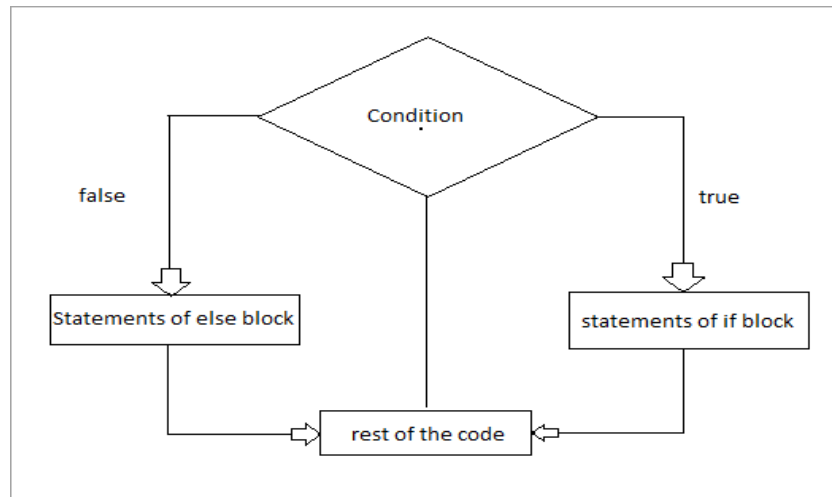
if (condition):

if block expressions

else:

else block expressions

Flow Chart:



Conditional Statements : if...elif...else

- When we have multiple conditions as per which we want to execute a particular piece of code depending on the truth value of conditions provided we use if...elif...else Statements.
- if...else statement evaluates test expression and will execute the body of if only when the test condition is True.
- If the condition is False, the body of else is executed.
- Indentation is used to separate the blocks.

Syntax :

if (condition):

if block expressions

elif (condition):

elif block expressions

else:

else block expressions

Flow Chart:

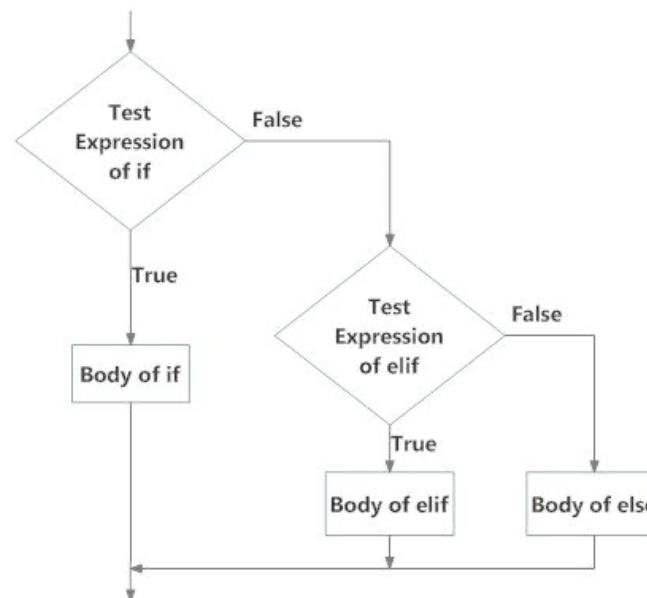


Fig: Operation of if...elif...else statement

Conditional Statements : nested if

Many a times we have a complex scenarios where we need to have one if...elif...else statement within another if...elif...else statement. This is called nesting.

We can have multiple if...elif...else statement within a if...elif...else statement.

We can track those with the help of indentation.

Syntax :

if (condition):

if block expressions

if (condition):

nested if block expressions

elif (condition):

nested elif block expressions

else:

nested else block expressions

elif (condition):

elif block expressions

else:

else block expressions