'if' statement - Basics (part 2)

‘Logical Operators’ in Python - what are they ?

All programming languages have ‘Logical Operators’. In python they will appear in the simplest way - just as in plain english.

- ‘and’ = We need 2 conditions to be both TRUE,
  For the code under ‘if’ statement to run.

- ‘or’ = We need just 1 condition to be True,
  For the code under ‘if’ statement to run.

Let’s use the same variables, and see 2 examples:
One with ‘and’ operator, and the other one with ‘and’:

```
a = 10
b = 5
c = 2
```

Example A:

```
If a>b or a<c:
  print (“One of the conditions is true”)

else:
  print(“None of them is true”)

output : One of the conditions is true
```

Example B:

```
If a>b and a<c:
   print (“One of the conditions is true”)

else:
   print(“None of them is true”)

output : One of the conditions is true
```

What is the difference between ‘=’ and ‘==’ ?

❖ We use the ‘=’ sign to assign a value to a variable.
x = 5 means : “x equals 5”

❖ We use the ‘==’ sign to ask, if 2 values are equal ? and usually used in ‘if’ statements
x == 5 means : “Does x equals 5?

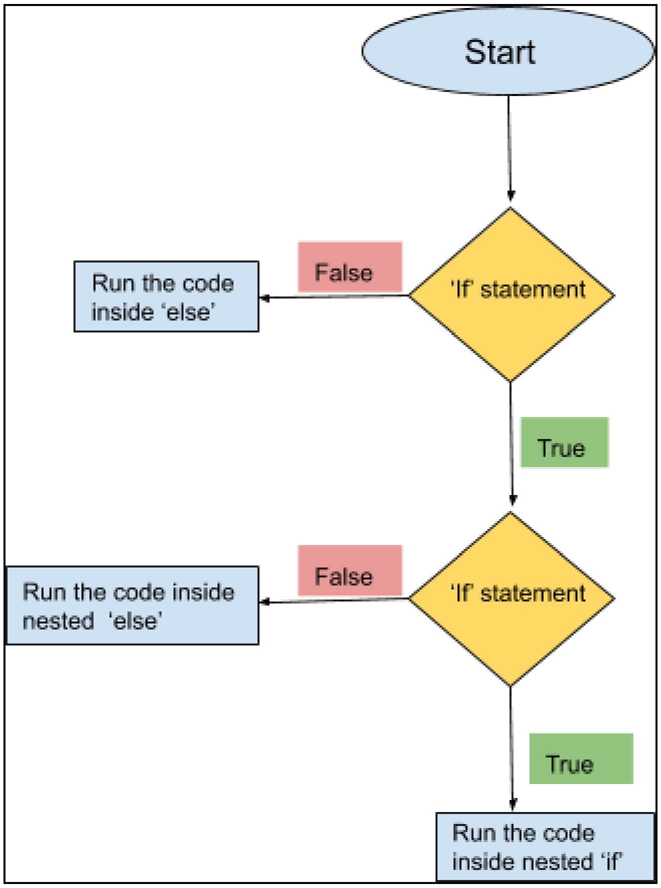
Example:

```
x=5
if x==5:
  print(“x equals five”)
else:
  print(“x is not equals to five”)
```

What are nested ‘if’ statements ?

We have seen many examples of ‘if’ statements, but what about having an ‘if’ inside an ‘if ?

In ‘if’ statements we can nest them one in the other. Meaning if some ‘if’ statement came up ‘True’, then go inside another ‘if’ statement which can also be ‘True’ or ‘False’.


Start
'If' statement
False
Run the code inside 'else'
True
'If' statement
False
Run the code inside nested 'else'
True
Run the code inside nested 'if'

Example:

```
age = 30
gender = ‘Female’

 If age >20 :
   If gender == ‘Male’:
     print (“Age is bigger than 20,
              and the gender is male”)
   else:
     print(“Age is bigger than 20,
              but gender is NOT male)
 else:
   print(“age is NOT bigger than 20”)
```

- The pair marked in blue, are the main ‘if-else’.
- The pair marked in purple, are the nested ‘if-else’