‘If’ condition statement (Basics)

What is an ‘if’ condition statement ?

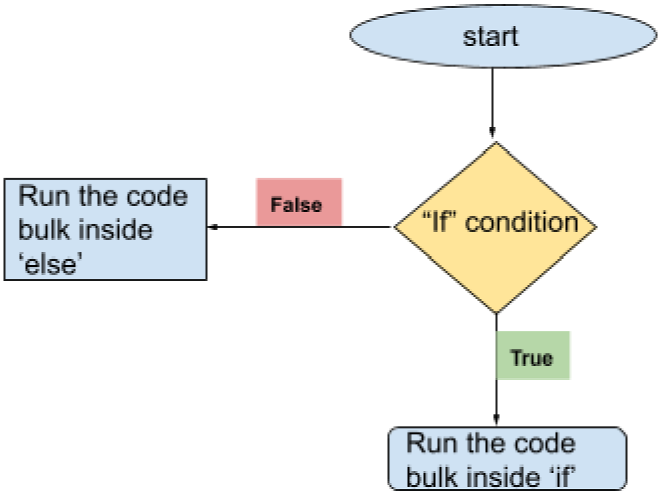
An ability for decision making, and for that ‘if’ condition statement was created (also known as ‘if-else’ statement).

In computer science, an ‘if’ statement gives the ability to execute a balk of code for your choice - Only if a certain condition is satisfied. This happens as the result of an ‘if’ statement is a ‘True’ or ‘False’ boolean value.

Simple ‘if’ statement syntax in python

```
x = 3
if x > 4:
  print("YES")
else:
  print("NO")
```

‘If’ condition - code flow


start
"If" condition
False
Run the code bulk inside 'else'
True
Run the code bulk inside 'if'

→ Flow steps:

1. Declaration of x=3 integer variable
2. Checking ‘if’ x is larger than 4. The output is ‘True’
3. Run the code in inner ident of ‘if’ : print("YES")
4. If the result of ‘if’ was ‘False’ → inner ident of ‘else’ would run print("NO")

output → In this case, ‘print(“NO”)’ will be executed as the condition we have ‘if x > 4’ is ‘False’ , So the code under ‘else’ will run. Because ‘else’ is used as a ‘default exit point’ for if the statement is not true.

‘else’ and ‘elif’, what is the difference between them ?

As we saw in the ‘syntax’ example above, once the ‘if’ statement returns a ‘False’ value, we run only the code that is indented inside ‘else’.
On that scenario we have only 1 condition, and 1 flow for each result

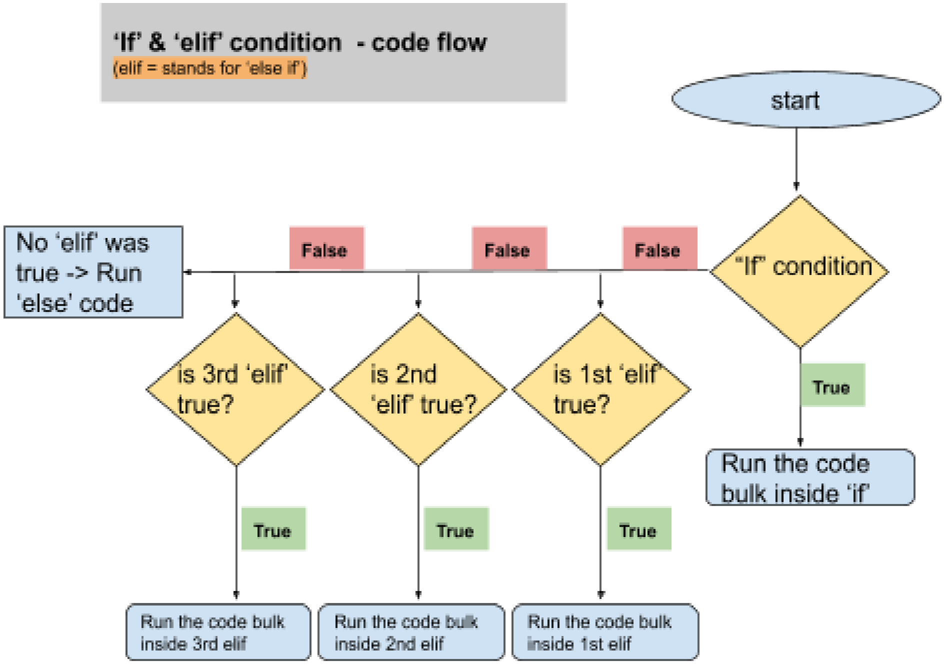
1. True → ‘print("YES")’ will be executed
2. False → ‘print("NO")’ will be executed

But what if we have lots of conditions to take into consideration,
and not only 1. Then we should use elif as well:

- ‘elif’ = For all mid-conditions.
- ‘else’ = For the last condition that is used as ‘default exit point’ for the condition part.

Simple ‘if’ with ‘elif’ statement syntax in python

```
x = 3
if x > 4:
  print("One")
elif x>5:
  print("Two")
elif x>15:
  print("Three")
elif x>20.5:
  print (“Four”)
else:
  print("Five")
```


‘If’ & ‘elif’ condition - code flow
(elif = stands for ‘else if’)
start
“If” condition
True
Run the code bulk inside ‘if’
False
False
False
is 1st ‘elif’ true?
is 2nd ‘elif’ true?
is 3rd ‘elif’ true?
True
True
True
Run the code bulk inside 1st elif
Run the code bulk inside 2nd elif
Run the code bulk inside 3rd elif
No ‘elif’ was true -> Run ‘else’ code