

Python Conditions and If statements

Python supports the usual logical conditions from mathematics:

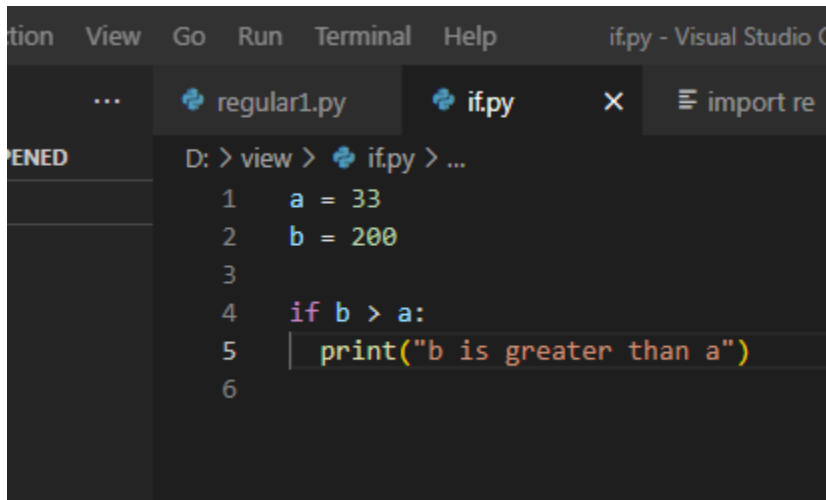
- Equals: `a == b`
- Not Equals: `a != b`
- Less than: `a < b`
- Less than or equal to: `a <= b`
- Greater than: `a > b`
- Greater than or equal to: `a >= b`

These conditions can be used in several ways, most commonly in "if statements" and loops.

An "if statement" is written by using the `if` keyword.

Example

If statement (save file name `if.py` as shown below)



```
if.py - Visual Studio Code
regular1.py if.py x import re U
D: > view > if.py > ...
1 a = 33
2 b = 200
3
4 if b > a:
5     print("b is greater than a")
6
```

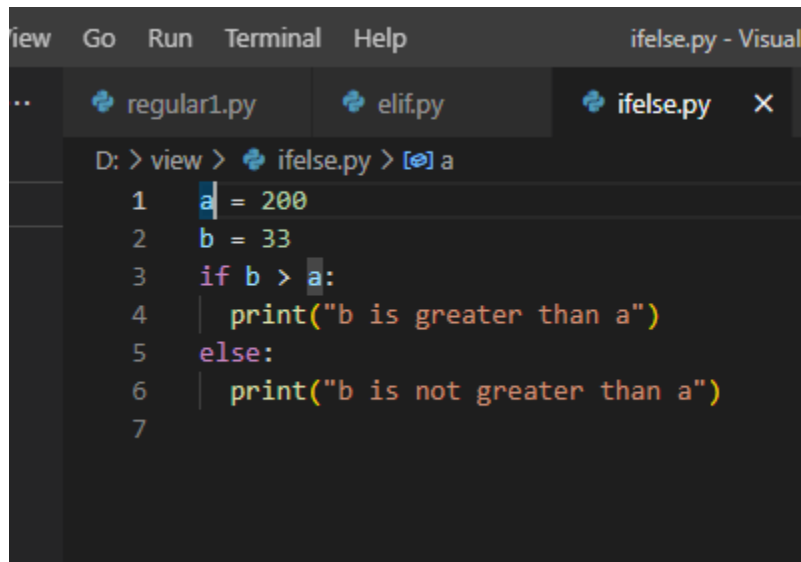
Run command in terminal `python if.py` as shown below.

Output:-

```
PS D:\view> python if.py
b is greater than a
PS D:\view> █
```

If else :-

Example: (save file ifelse.py as shown below):-



```
view Go Run Terminal Help ifelse.py - Visual
regular1.py elif.py ifelse.py X
D: > view > ifelse.py > [a]
1 a = 200
2 b = 33
3 if b > a:
4     print("b is greater than a")
5 else:
6     print("b is not greater than a")
7
```

Run command in terminal `python ifelse.py` as shown below.

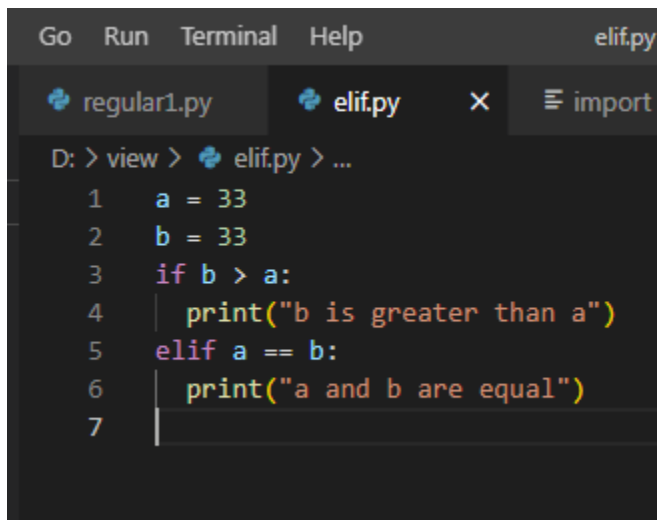
Output:-

```
PS D:\view> python ifelse.py
b is not greater than a
PS D:\view> █
```

Elif

The `elif` keyword is python's way of saying "if the previous conditions were not true, then try this condition".

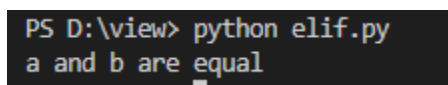
Example: (save file elif.py as shown below):-



```
Go Run Terminal Help elif.py
regular1.py elif.py X import
D: > view > elif.py > ...
1 a = 33
2 b = 33
3 if b > a:
4     print("b is greater than a")
5 elif a == b:
6     print("a and b are equal")
7
```

Run command in terminal `python elif.py` as shown below.

Output:-

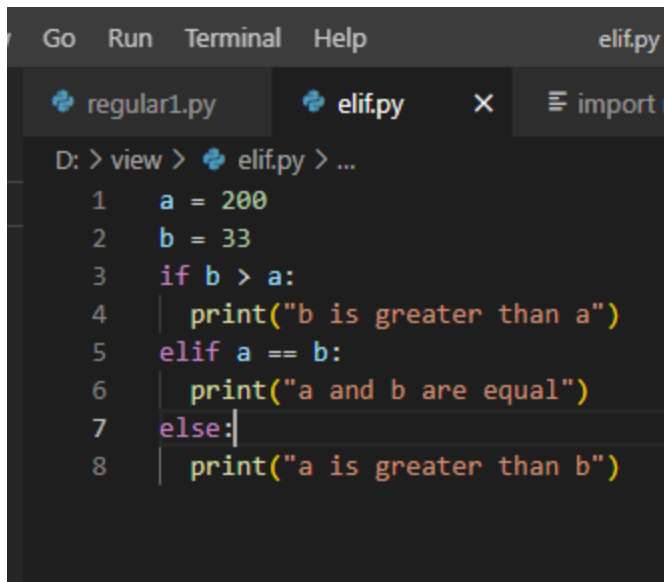


```
PS D:\view> python elif.py
a and b are equal
```

Else

The `else` keyword catches anything which isn't caught by the preceding conditions.

Example (save file name as elif.py)

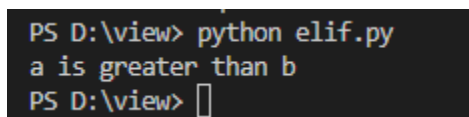


The image shows a code editor window with a dark theme. The title bar at the top contains 'Go', 'Run', 'Terminal', 'Help', and 'elif.py'. Below the title bar, there are two tabs: 'regular1.py' and 'elif.py'. The 'elif.py' tab is active, and the code editor displays the following Python code:

```
D: > view > elif.py > ...
1  a = 200
2  b = 33
3  if b > a:
4      print("b is greater than a")
5  elif a == b:
6      print("a and b are equal")
7  else:
8      print("a is greater than b")
```

Run command in terminal `python elif.py` as shown below.

Output:-



The image shows a terminal window with a dark background. The prompt is 'PS D:\view>'. The user has entered the command 'python elif.py'. The output of the command is 'a is greater than b'. The prompt is now 'PS D:\view>' with a cursor.

```
PS D:\view> python elif.py
a is greater than b
PS D:\view> 
```