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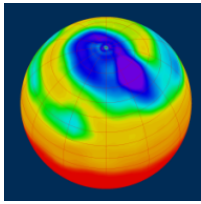

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Common operators: and, not and or

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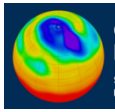

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Introducing the "and", "not" and "or" operators

When testing with an `if` or `while` statement you often want to test multiple expressions in a single line. You will want to use the following operators to do this:

- `and`: e.g. `if temp > 0 and temp < 100:`
  - only execute block if both values equate to True (i.e. temp is in range 1-99 degC).
- `not`: e.g. `if not myvar:`
  - only execute block if `myvar` does not equate to False/None.
- `or`: e.g. `if name == "Mary" or name == "Paul":`
  - execute block if either (any) of the expressions equate to True.

Using "and"

You can chain any number of expressions together with and operators:

```
age = 23
name = "Jemma"
height = 1.63

if name == "Jemma" and age >= 23 and height >= 1.63:
    print "It is definitely you Jemma!"
```

```
It is definitely you Jemma!
```

Using "not"

You can use not to test for a negative result from an expression and exclusion from a collection:

```
if not name == "Hannah":
    print "Not allowed in."
```

```
Not allowed in.
```

```
x = 25
if x not in [1, 2, 3]:
    print "Didn't find x in list."
```

```
Didn't find x in list.
```

In fact, you can even write: `is not`

```
if x is not 100: print "NOT 100!"
```

```
NOT 100!
```

Using "or"

You can test if any expression is True with or:

```
greeting = "hello"
if greeting == "hi" or greeting == "hello":
    print "Good day to you too."
```

```
Good day to you too.
```

```
You can chain any number of expressions with `or` operators:
```

```
arg = 5.1
if type(arg) == str or arg > 5 or arg < -5:
    print "Arg is good."
```

```
Arg is good.
```

Chaining all of these operators

And you can chain all these operators together if you want or need to:

```
start = None
end = 55
status = "STARTED"

if status == "STARTED" and (start is not None or end > 0):
    print "Running."
```

```
Running.
```

You might need to use brackets (as above) to specify the precedence of evaluation of the expressions.