Python Bootcamp

Week 3

Week 2 Objectives

1. Conditionals
2. Loops
   a. While
   b. For
   c. Break, Continue, Pass

Conditional

Execute a set of statements if a condition is met

E.g.

```
if 5 < 4:
          print("5 is smaller than 4)
else:
          print("5 is larger than 4")
```

Conditional

if... elif... else...

Program checks if the conditional for 'if' is true, then each of the 'elif' conditions. If the above are untrue, the block of statements under 'else' will run

E.g.

```
a = 4
b = 5

if a > b:
        print("a is larger than b")
elif a == b:
        print("a is equal to b")
else:
        print("a is smaller than b")
```

Truth Table

Expression	Evaluates to . . .
True and True	True
True and False	False
False and True	False
False and False	False

and

Expression	Evaluates to . . .
True or True	True
True or False	True
False or True	True
False or False	False

or

Table 2-4: The *not* Operator's Truth Table

Expression	Evaluates to . . .
not True	False
not False	True

MIXING BOOLEAN AND COMPARIS

not

Conditions

(Python Logic Conditions)

Same as mathematics

Given that a = 1, b = 2:

Equals	a == b	False
Not Equal	a != b	True
Less than	a < b	True
Greater than	a > b	False
Less than or equal to	a <= b	True
Greater than and equal to	a >= b	False

* Note the double '=' for equals
* When there are 2 symbols for a logic condition, '=' comes last

Exercise

Write a program that takes 2 inputs: num1 and num2.
Output the larger number.
If they are the same, output 'same'.

Loops

While Loops

Execute a set of statements as long as a condition is true.

e.g.

```
i = 1
while i < 4:
        print(i)
        i += 1
```

While Loops

Execute a set of statements as long as a condition is true.

e.g.

```
i = 1
while i < 4:
        print(i)
        i += 1
```

Output:

```
1
2
3
```

For Loops

Iterates over a sequence

E.g.
```
for i in range(5):
    print(i)
```

For Loops

Iterates over a sequence

E.g.
```
for i in range(5):
    print(i)
```

Output:
```
0
1
2
3
4
```

For Loops

Iterates over a sequence

E.g.
```
for i in range(5):
        print(i)
```

```
for j in ['a' , 'b' , 'c']:
        print(j)
```

Output:
```
0
1
2
3
4
```

For Loops

Iterates over a sequence

E.g.
```
for i in range(5):
    print(i)
```

```
for j in ['a' , 'b' , 'c']:
    print(j)
```

Output:

0
1
2
3
4

Output:

a
b
c

Exercise

Write a program to print numbers 2 to 8 inclusive, using either a while or for loop

End