Introduction to Loops

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Hawken Coding Club
Learning Meeting No. 2

Review Challenge

Ask the user "What is your favorite food: "

If they say "sushi", reply "Me too."

If they do not say "sushi", reply "You're bad."

Lists

A list is a collection of a types of variables (such as integers, strings, etc.)

```
myList = [1,4,6]
print(myList)
```

```
[1, 4, 6]
```

```
myList = ["a","b","c"]
print(myList)
```
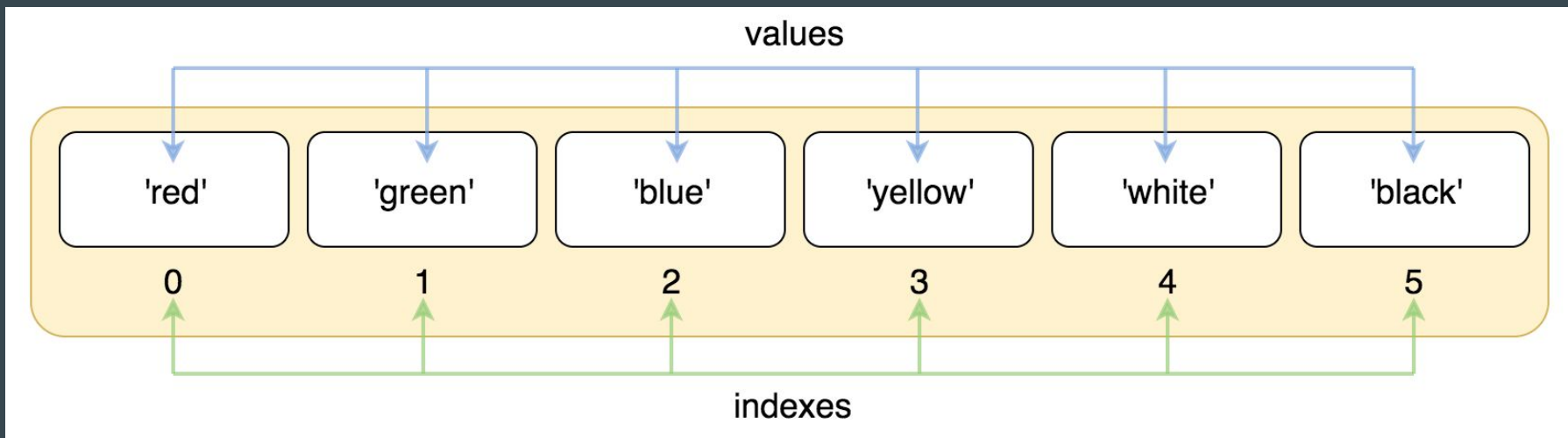
```
['a', 'b', 'c']
```

```
myList = [True, False]
print(myList)
```

```
[True, False]
```

Index

The index of an item is its place in a list

Notice that the index of the first value **isn't 1**, but it is **0.**

Calling an Index in a list

In some cases, you will want a certain item in a list. In order to get that item you can call it by its index.

Use brackets to get a certain value.

```
myList = [1,3,5,7,9]
x = myList[0]
y = myList[4]
print(x)
print(y)
```
```
1
9
```

Challenge

Make a list with the even numbers 1-10 and name the list **even**.
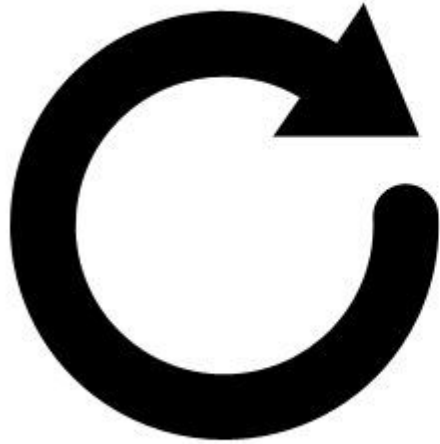
Store the value of the second number in the list to a variable named **x**.

Store the value of the third number in the list to a variable named **y**.

Print the sum of the two numbers.

What are loops?

- Loops are a very helpful tool that allow you to repeat code without having to re write it.

Two Types of Loops

The main two types of loops are:

For Loops   &   While Loops

Repeats for a set number of loops   Repeats while a condition is met

While Loops

While loops will repeat while a statement is true.

```python
x = 0
while x < 10:
    print(x)
    x+=1
```

```
0
1
2
3
4
5
6
7
8
9
```

For Loops

For loops will repeat for a certain number of loops.

```
x = 0
for x in range(0, 5):
  print(x)
  x+=1
```
```
0
1
2
3
4
```

```
x = 0
for x in (0, 5):
  print(x)
  x+=1
```
```
0
5
```

Loops Challenge

Declare a variable named **x** and set it to 10.

Using a while loop, print out 1-10 in a descending order, however stop at zero.

Boolean Operators

A boolean operator is a symbol that is used inside of a conditional statement.

And	and	If True and True
Or	or	If True or False
Not	not	If not False
Greater Than	>	If x > 10
Less Than	<	If x < 10
Equal To	==	If 2 == 2
Not Equal To	!=	If 4 != 1234567890

Final Challenge

Create a list with the even numbers of 1-20 called **even**.

If both the first item + the second last item equals 20 and the last item is equal to twenty, then print "Wow that's a lot of twenties."

Otherwise print "Not too many twenties, I'm disappointed."

F-tier meme