First thing’s first

Create a function with two parameters that returns the result of multiplying the two numbers.

Then print the result.

```
def multiply(num1, num2):
    return num1 * num2

print(multiply(2, 3))
```

PYTHON FUNDAMENTALS

Lists

LEARNING OBJECTIVES

- To understand the uses of lists
- To understand the syntax of creating a list
- To use a variety of methods to work with lists

What’s on your bucket list

Coding is all about data - storing it, retrieving it, doing stuff with it

In the real-world, we make lists

Let’s see

Coffee order :

Alex- Cortado

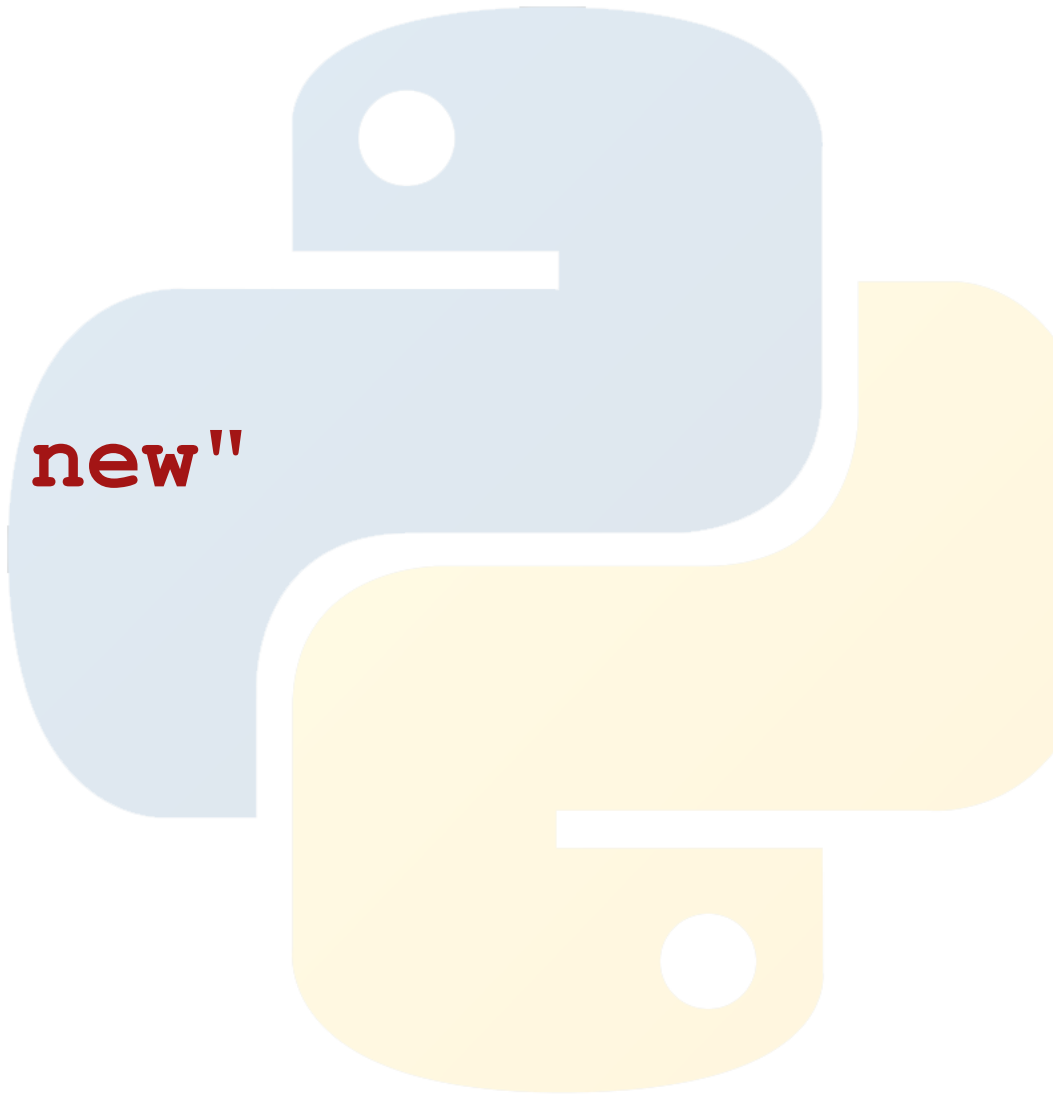
Ben - Latte

Charlie - whatever’s new

We can do the same thing in Python

```
coffee_order = [
    "Alex - Cortado",
    "Ben - Latte",
    "Charlie - Whatever's new"
]

print(coffee_order)
```



Activity:

Make a list of your favourite songs.

3 of them.

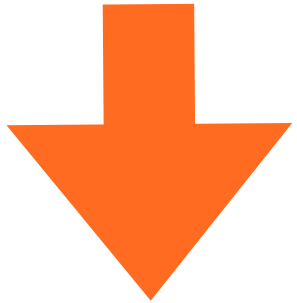
Print them!

Like any good list, we can access individual items

We use square brackets for that [ ]

```
print(coffee_order[2])
```

```
print(coffee_order[2])
```



Charlie - whatever's new

But wasn't that the 3rd item?

Python starts counting at 0,
so 0, 1, 2 = our 3 items in
coffee_order

Lists can be updated like variables

```
coffee_order = [
    "Alex - Cortado",
    "Ben - Latte",
    "Charlie - Whatever's new"
]
coffee_order[1] = "Ann - Vanilla latte”
print(coffee_order)
```

Properties work, just like in variables.

Are you getting this yet?

```
coffee_order = [
    "Alex - Cortado",
    "Ben - Latte",
    "Charlie - Whatever's new"
]

print(len(coffee_order))
```

It will output the number of items in the list, not the number of characters

Have you ever gone shopping and just had to add those chocolate biscuits to the end of your list?

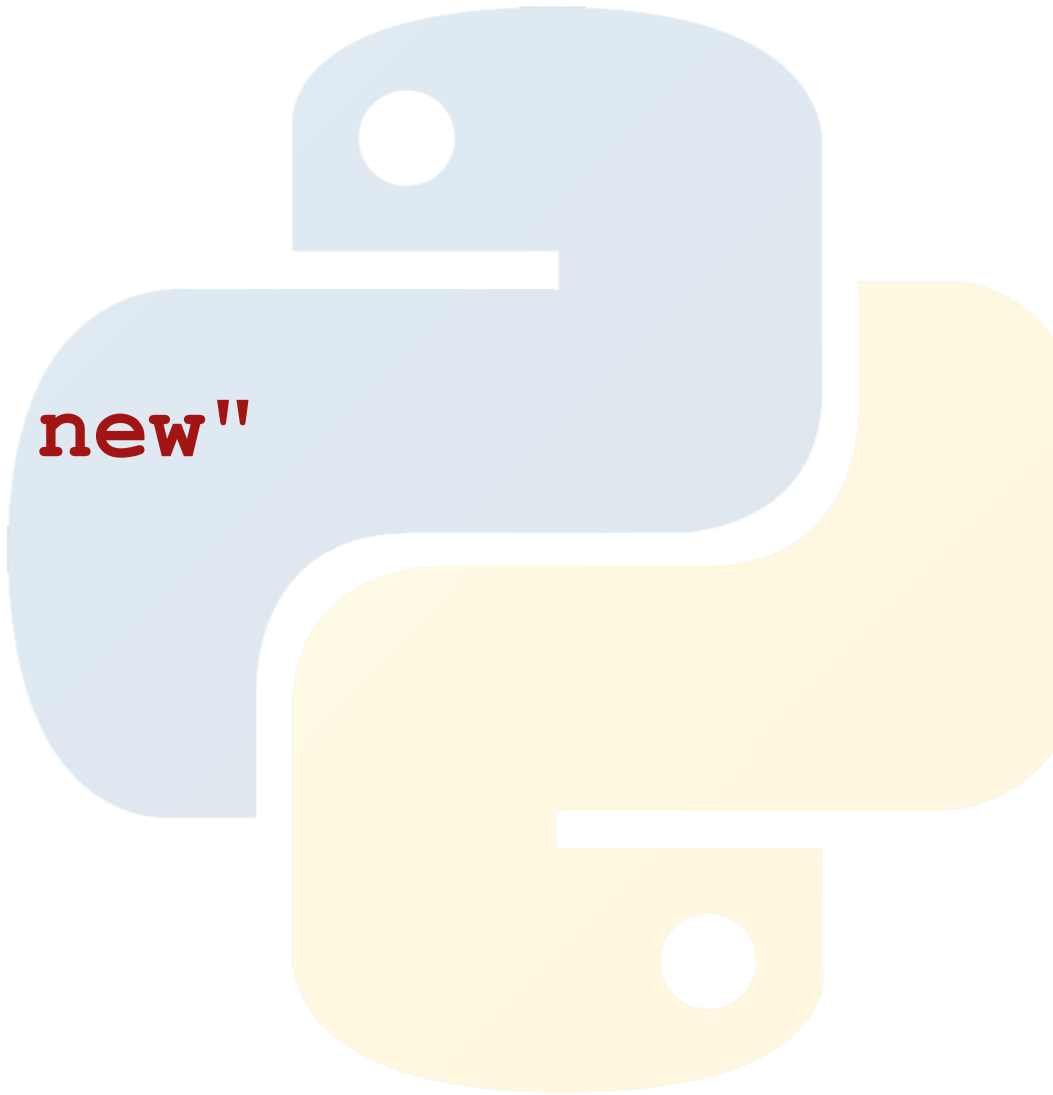
Python’s got you covered. The .append method.

```
coffee_order = [
    "Alex - Cortado",
    "Ben - Latte",
    "Charlie - Whatever's new"
]
coffee_order.append("Donna - espresso”)
print(coffee_order)
```

Have you ever thought you actually don’t want that pointless broccoli?

Python’s got you covered. The .pop method, which removes the last item from your list

```
coffee_order = [
    "Alex - Cortado",
    "Ben - Latte",
    "Charlie - Whatever's new"
]
coffee_order.pop()
print(coffee_order)
```



There are lots of methods available to use in lists, from adding things, removing things, adding in certain places.

```
.remove()
.reverse()
.sort()
.count()
.extend()
```

Check out the Python Documentation for more.

https://docs.python.org/3/

LEARNING OBJECTIVES

- To understand the uses of lists
- To understand the syntax of creating a list
- To use a variety of methods to work with lists

Activity(1):

Create a list of your favourite website (3 of them), and then add another two once you've created the list. Then remove the last website.

Activity(2):

Research on the following methods: remove(), reverse(), sort(), count(), extend() (and many more). Create a program to demonstrate the uses of each method, some of these you may need more than one example. (Pay attention: not all methods would permanently updates/make changes to the lists themselves.)

For more info:

https://docs.python.org/3/

Extra reading

Tuples in Python is similar but different to lists. Research on tuples and create a few examples on using lists and tuples, and explain the differences between lists and tuples.