Code Nation

Python Fundamentals

Dot Notation

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Learning Objectives

- To understand dot notation
- To understand different data types
- To use VS code to create simple programs

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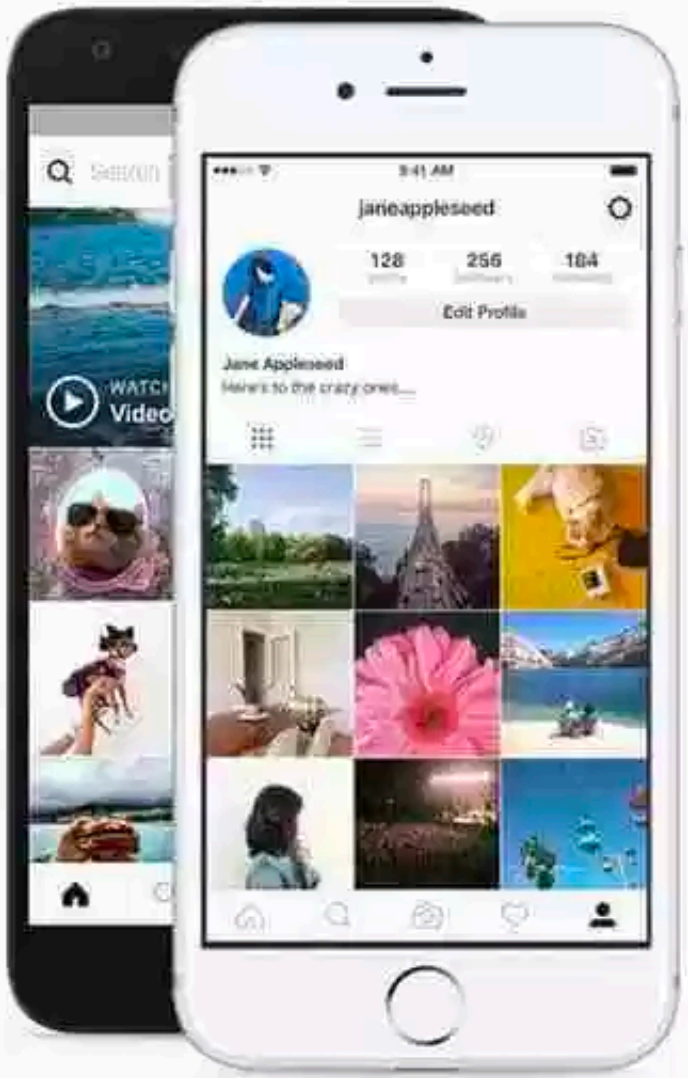
Python
Readable and Maintainable Code
Quick to start
Loads of beginner resources



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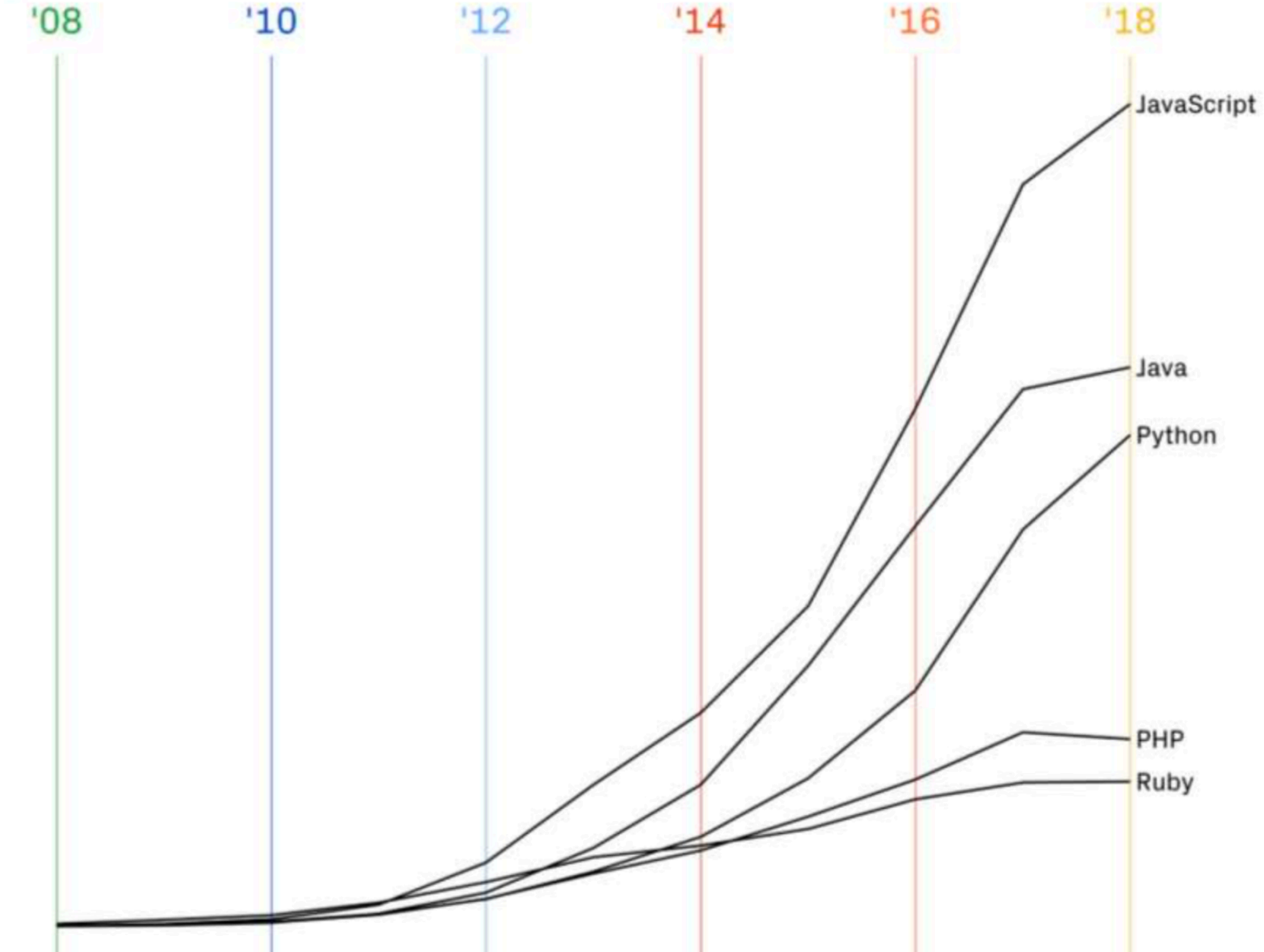
Get the app.

It's also one of the most popular language in the world

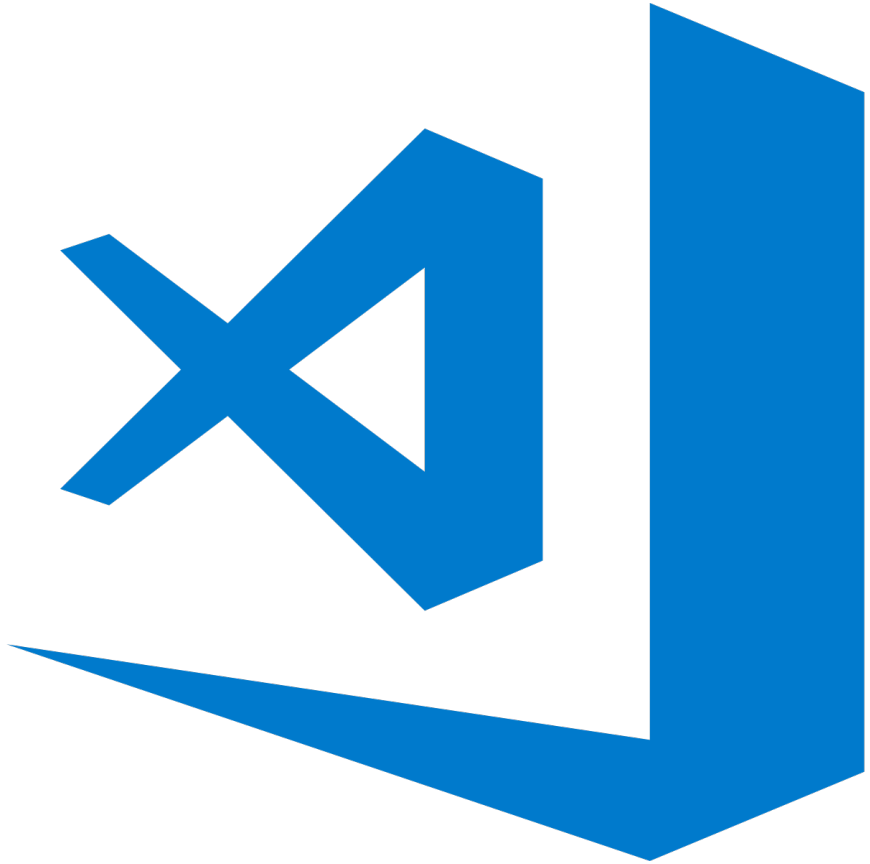
Top programming languages by repositories created, 2008–2018



Too long; didn't read? A very good language to learn!

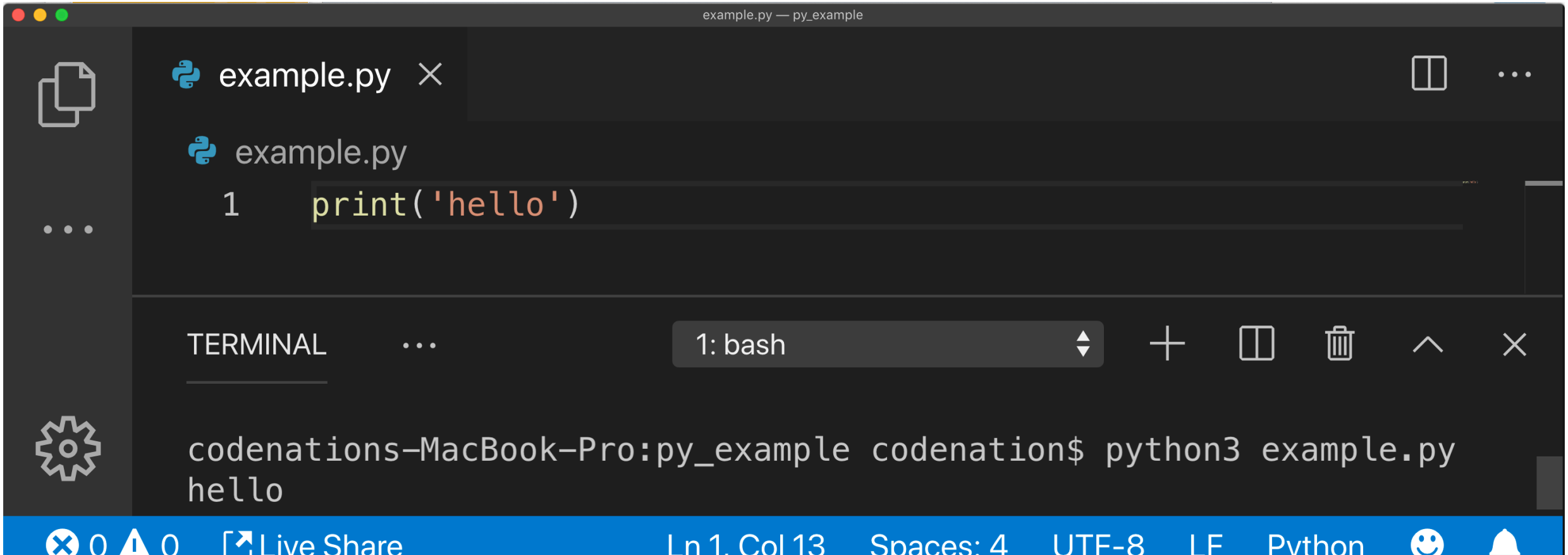
Printing information

um... to a printer?



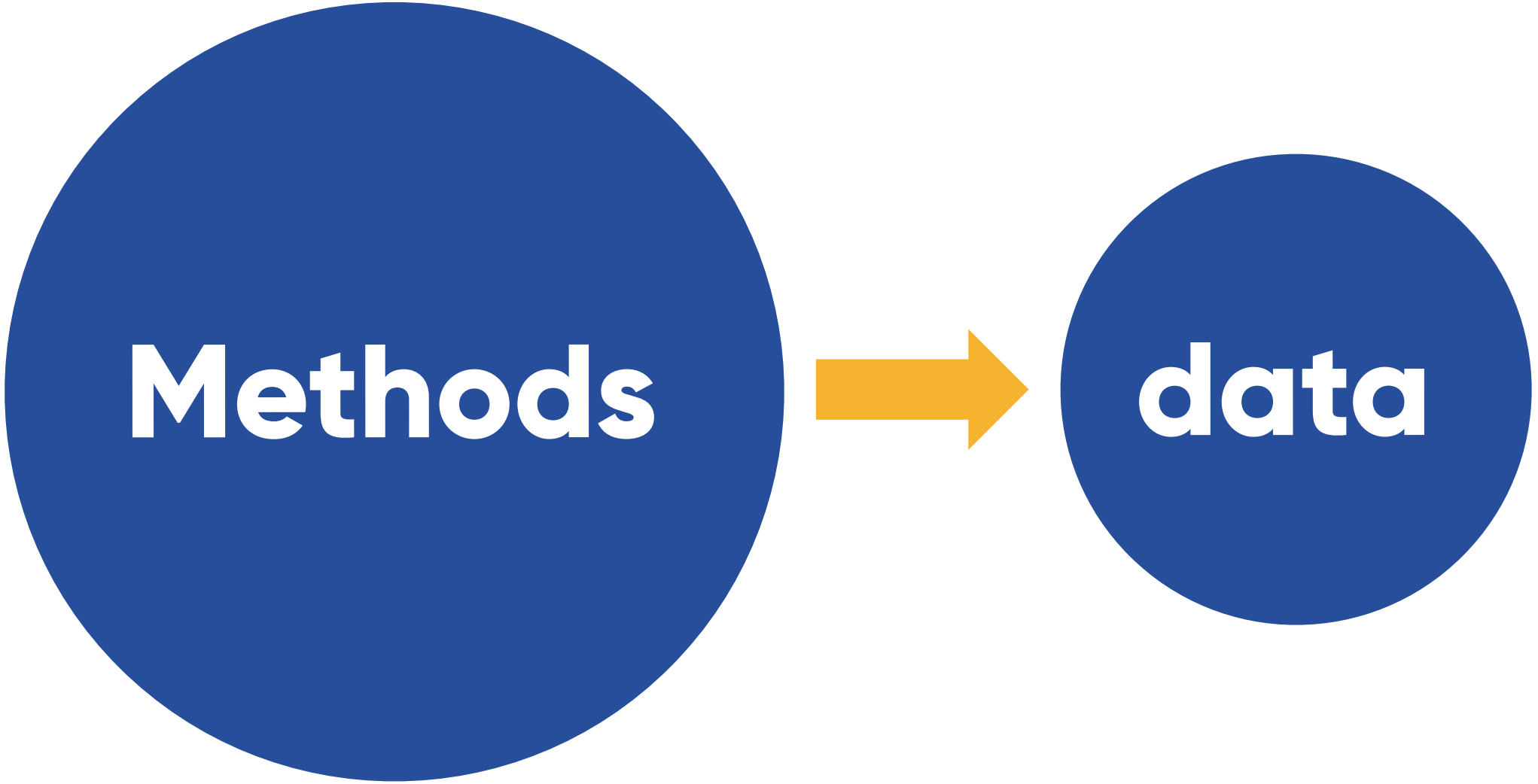
To VS Code

print('hello')

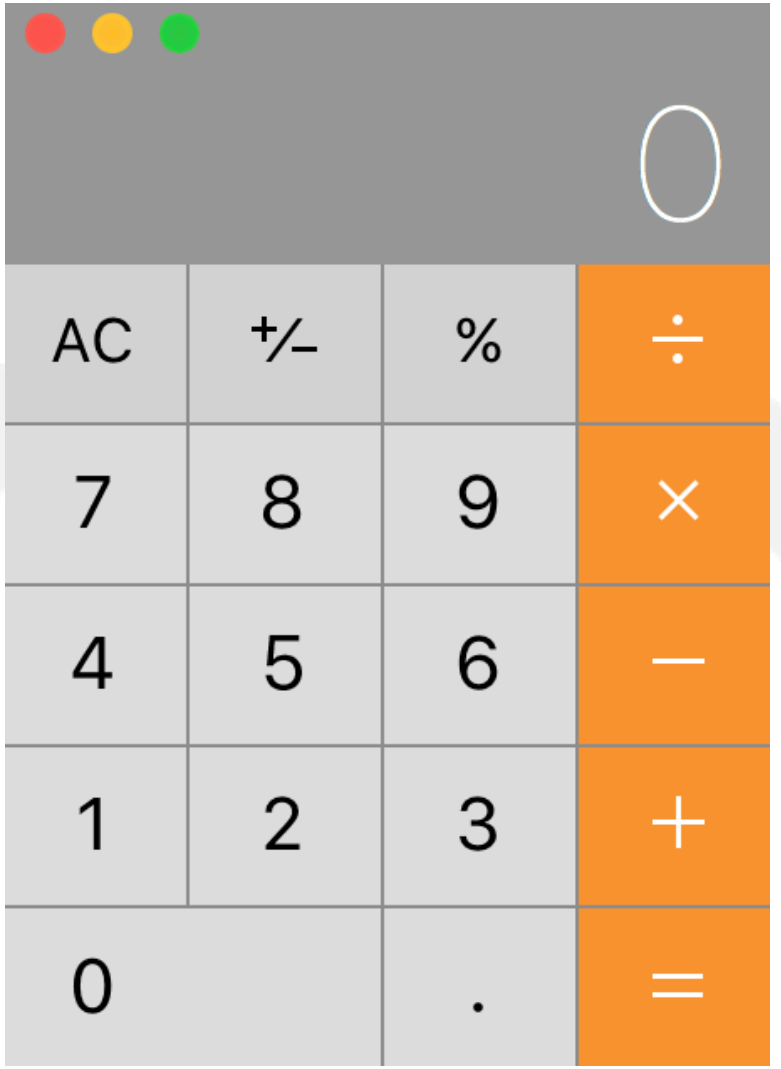

example.py — py_example
example.py
example.py
1 print('hello')
TERMINAL
1: bash
codenations-MacBook-Pro:py_example codenation$ python3 example.py
hello
0 0
Live Share
Ln 1, Col 13
Spaces: 4
UTF-8
LF
Python

Everyone loves a bit of data

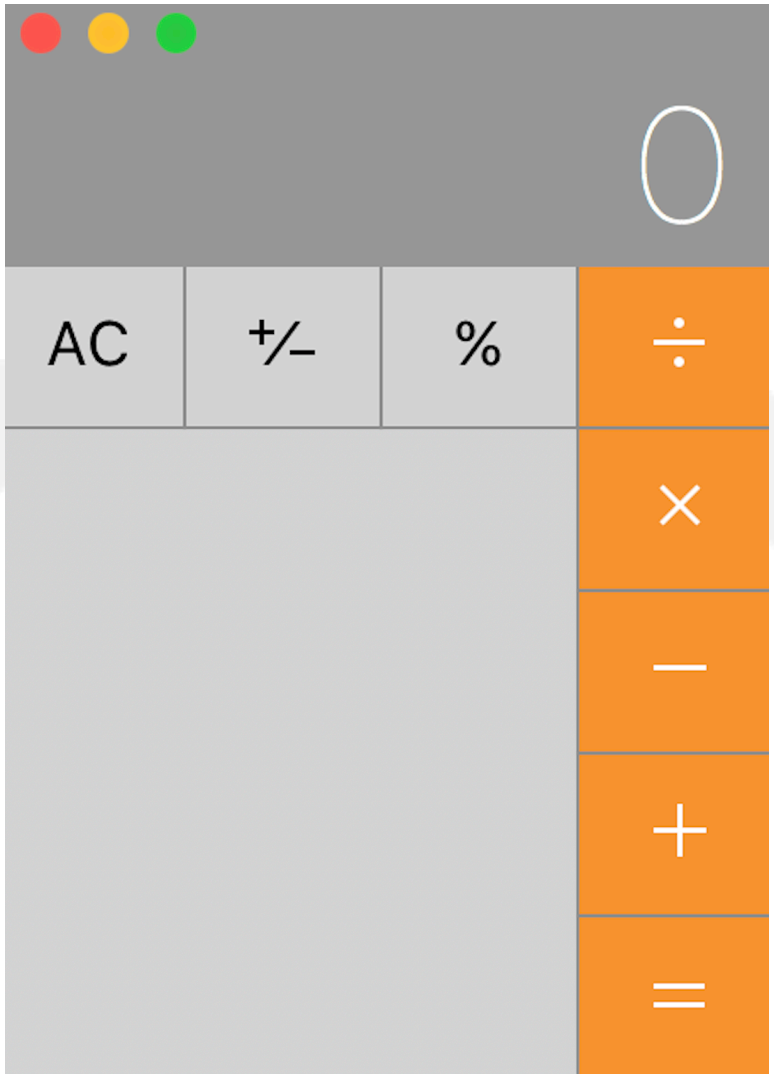
If we break coding down to its simplest and snappiest



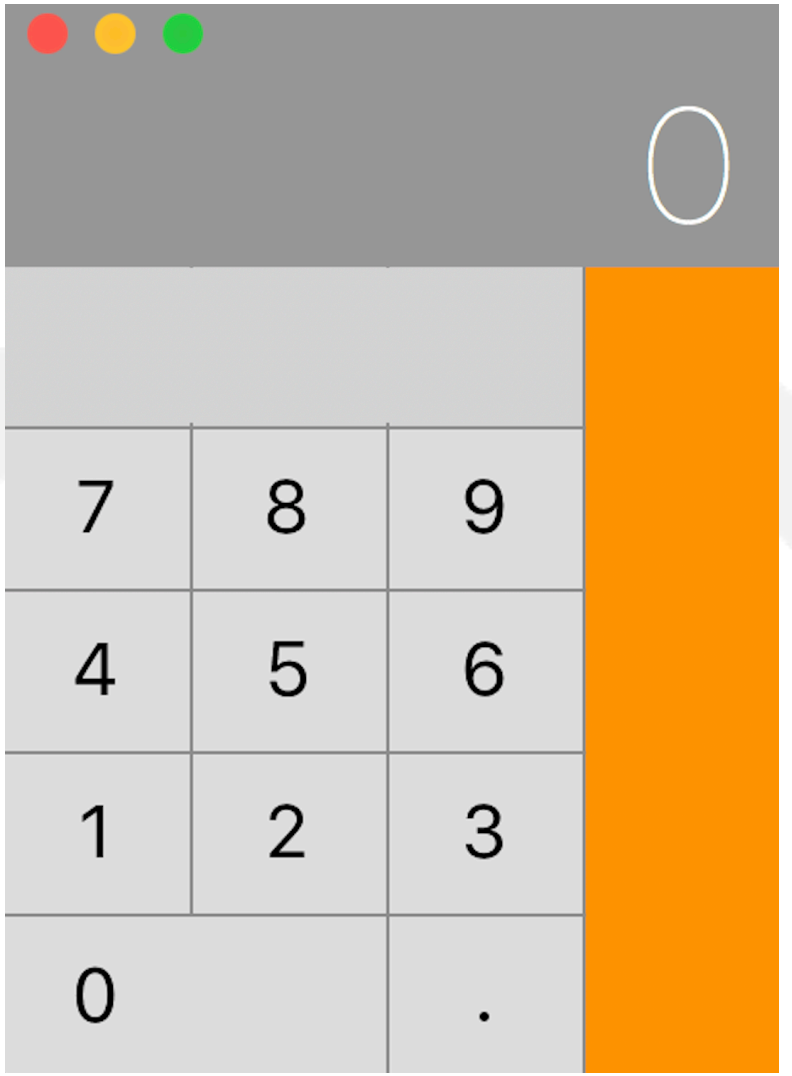
Everyone loves a calculator



But how much would you love it if you took this to your maths exam?



Perhaps the cruellest of them all!



Methods and data intimately linked

Working with data types

Data types refers to the kind of data that we're asking the computer to work with

Working with data types

In Python, we have a few simple kinds of data

These are :

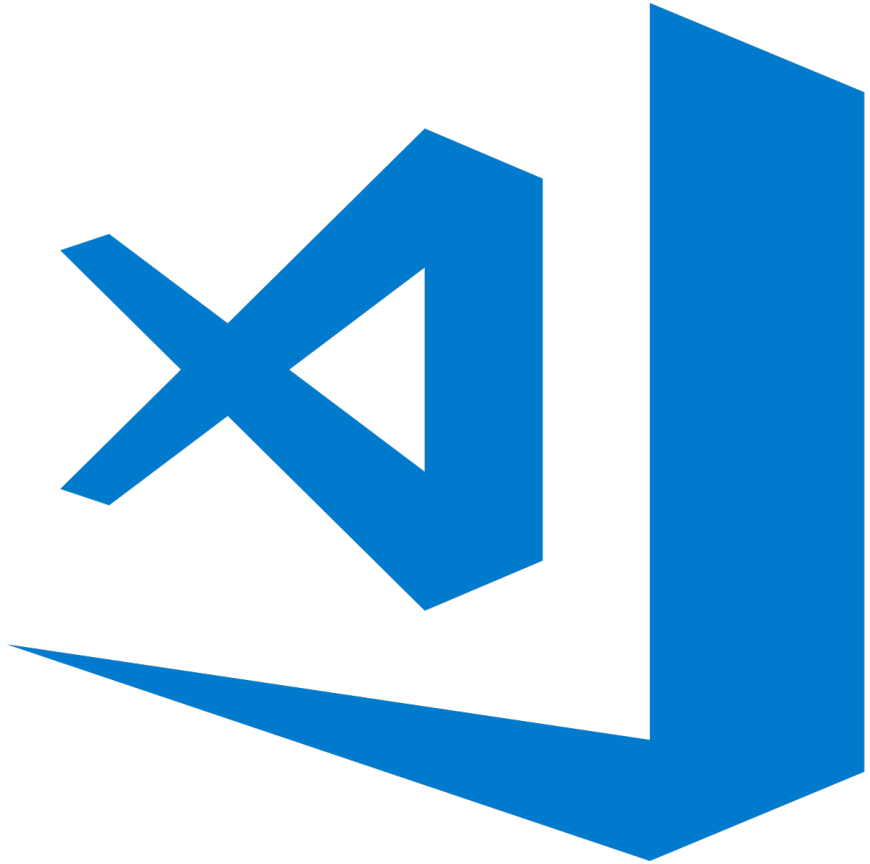
String : for representing text

Integer : for representing whole number

Floating point : for decimals

None : for nothing

Boolean : for true and false



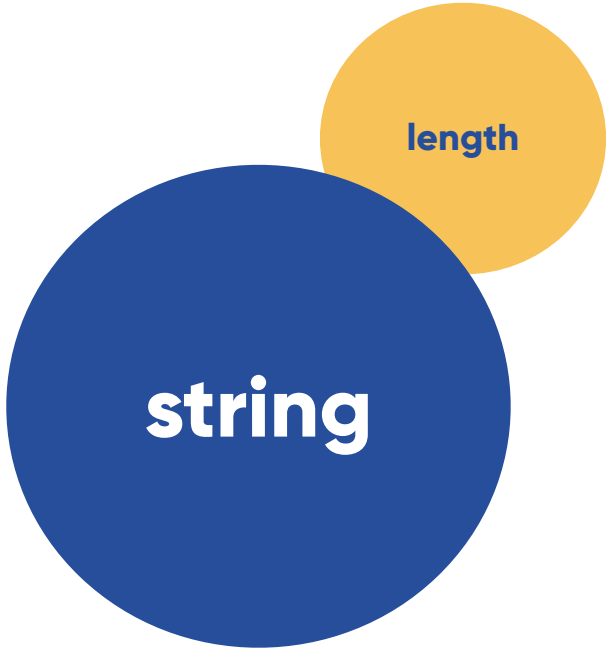
To VS Code

Get on my property

```
print("what data type am I?")
```

Good stuff,
it is indeed a string

Properties

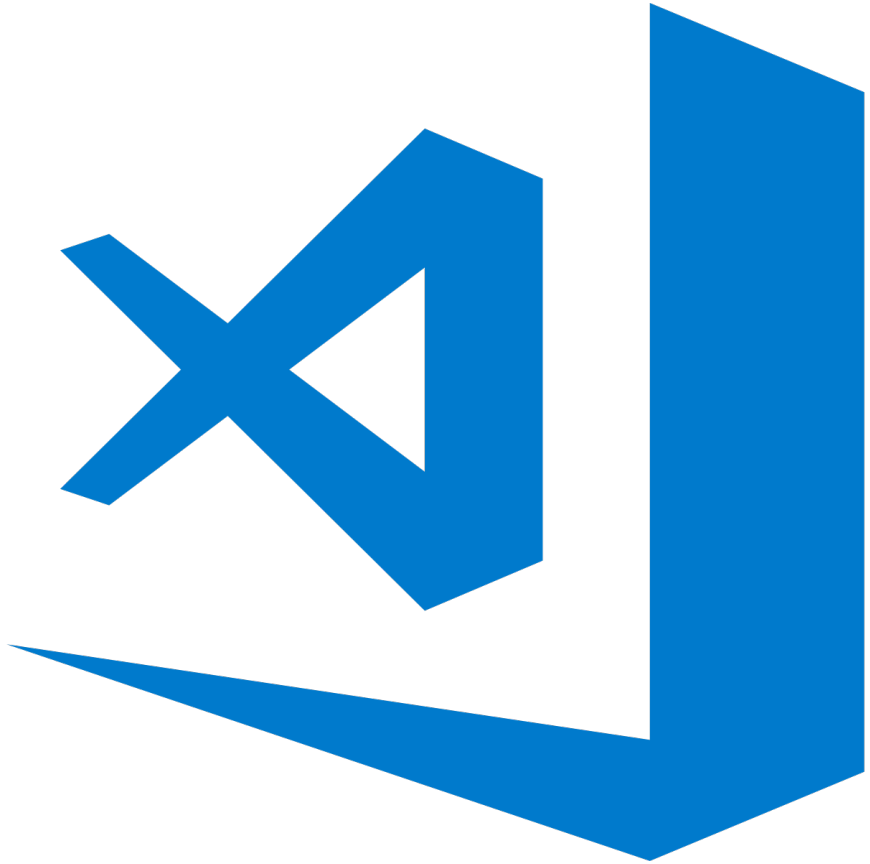


Strings have associated data or additional information available

```
print('Hello')
```

How many letters does hello have?

```
print(len('hello'))
```

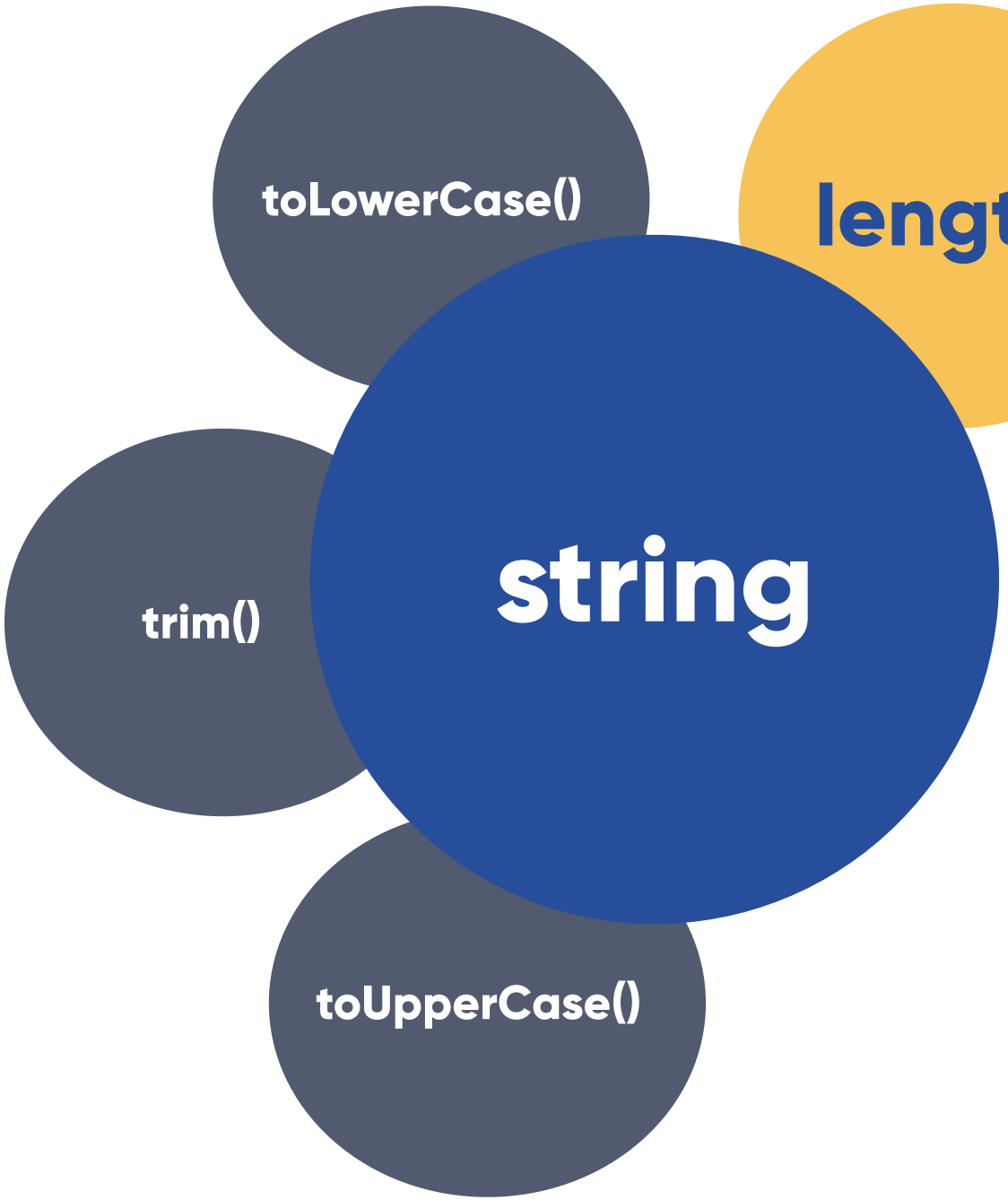


To VS Code

Methods in the madness

Methods and data intimately linked

The built-in data types have built-in associated methods



Strings have methods that we can use to manipulate them

Dot notation

```
print('hello'.upper())
```

Dot notation

```
'hello'.upper()
```

```
object.property
```

Methods let us do stuff!

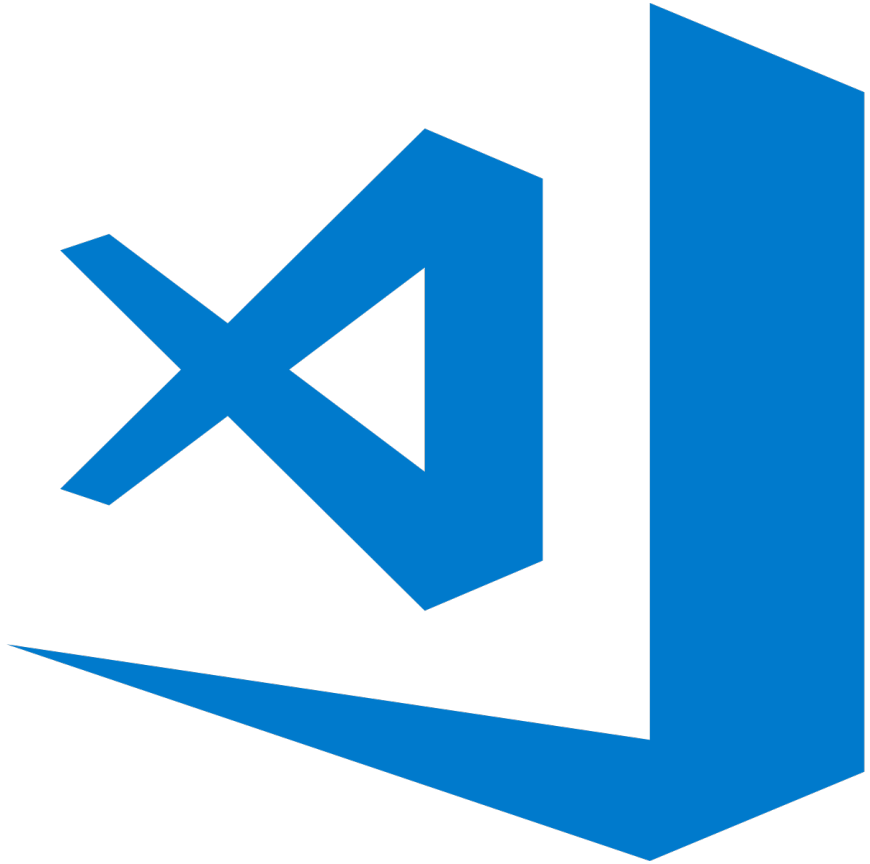
Unlike properties, which are essentially just information

Look into these methods and see if you can work out what they do:

- capitalize()
- count()
- find()
- replace()

Finding a particular character in a string

```
print('hello'[2])
```



To VS Code

Ssh.

Libraries

In coding, libraries give us access to a bunch of features that we don't have to code ourselves

So far, we've stuck to print and... that's about it

Let's see the power of a library in action. A classic example : generating a random number

import random

random is a library in python. If we want to use a library we have to import it first.

import random

print( )

Parameters

```
import random

print( random.randint(1,10) )
```

Dot Notation

} random is a library in python

} randint is a method in random

} randint takes two parameters an upper and a lower bound

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Have a go at printing a grid like this