INTRODUCTION TO PYTHON

DAY 2 OF 20

PREPARED BY DSEA

CONTENT

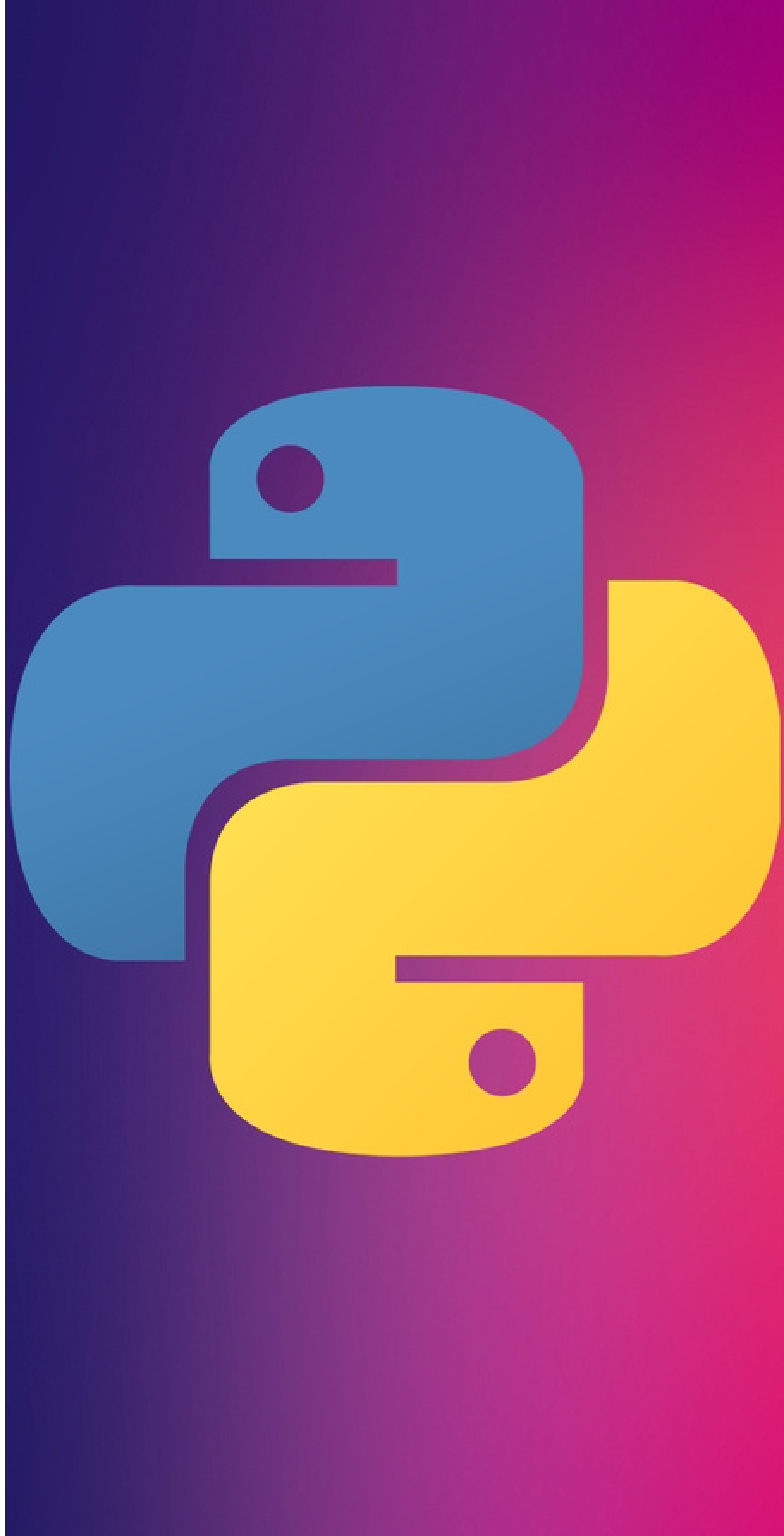
WHAT IS PYTHON

WHAT IS PYTHON

- Python is an interpreted, high-level, general-purpose programming language.
- Created by Guido van Rossum and first released in 1991,
- Python's design philosophy emphasizes **code readability** with its notable use of significant whitespace.
- Its language constructs and **object-oriented approach** aim to help programmers write clear, logical code for small and large-scale projects.

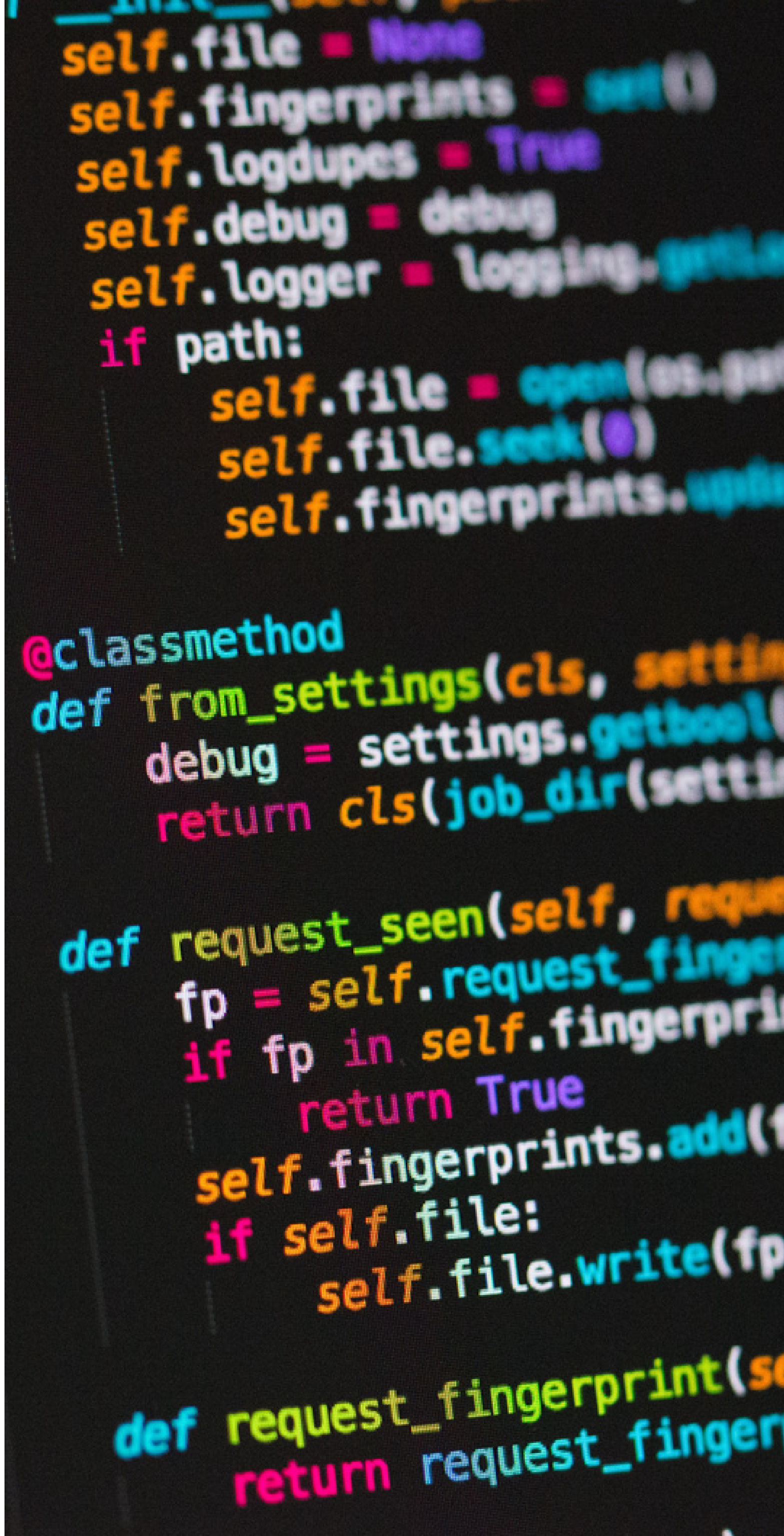
WHAT IS PYTHON

- Python is dynamically typed and garbage-collected.
- It supports multiple programming paradigms, including procedural, object oriented, and functional programming.
- Python is often described as a **"batteries included"** language due to its comprehensive standard library.
- Python is a **popular programming language**. It was created by Guido van Rossum, and released in 1991.



USES OF PYTHON

- Web development (server-side),
- Software Development,
- Mathematics,
- System Scripting.



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    self.fingerprints = set()
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    self.debug = debug
    self.logger = logging.getLo
    if path:
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        return True
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def request_fingerprint(se
    return request_finger
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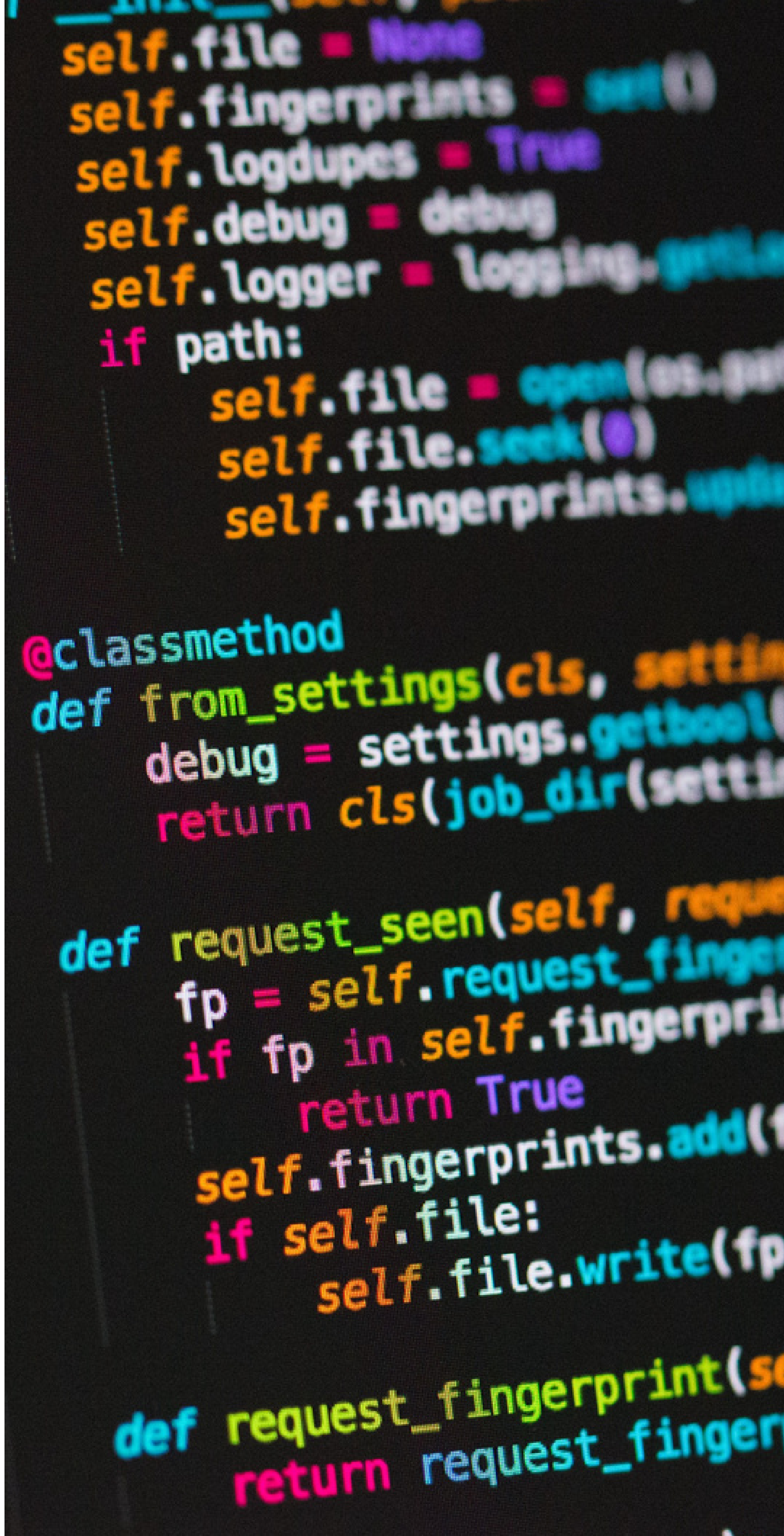
WHAT CAN PYTHON DO?

- Python can be used on a server to create web applications.
- Python can be used alongside software to create workflows.
- Python can connect to database systems. It can also read and
- modify files.
- Python can be used to handle big data and perform complex
- mathematics.
- Python can be used for rapid prototyping, or for productionready software development.



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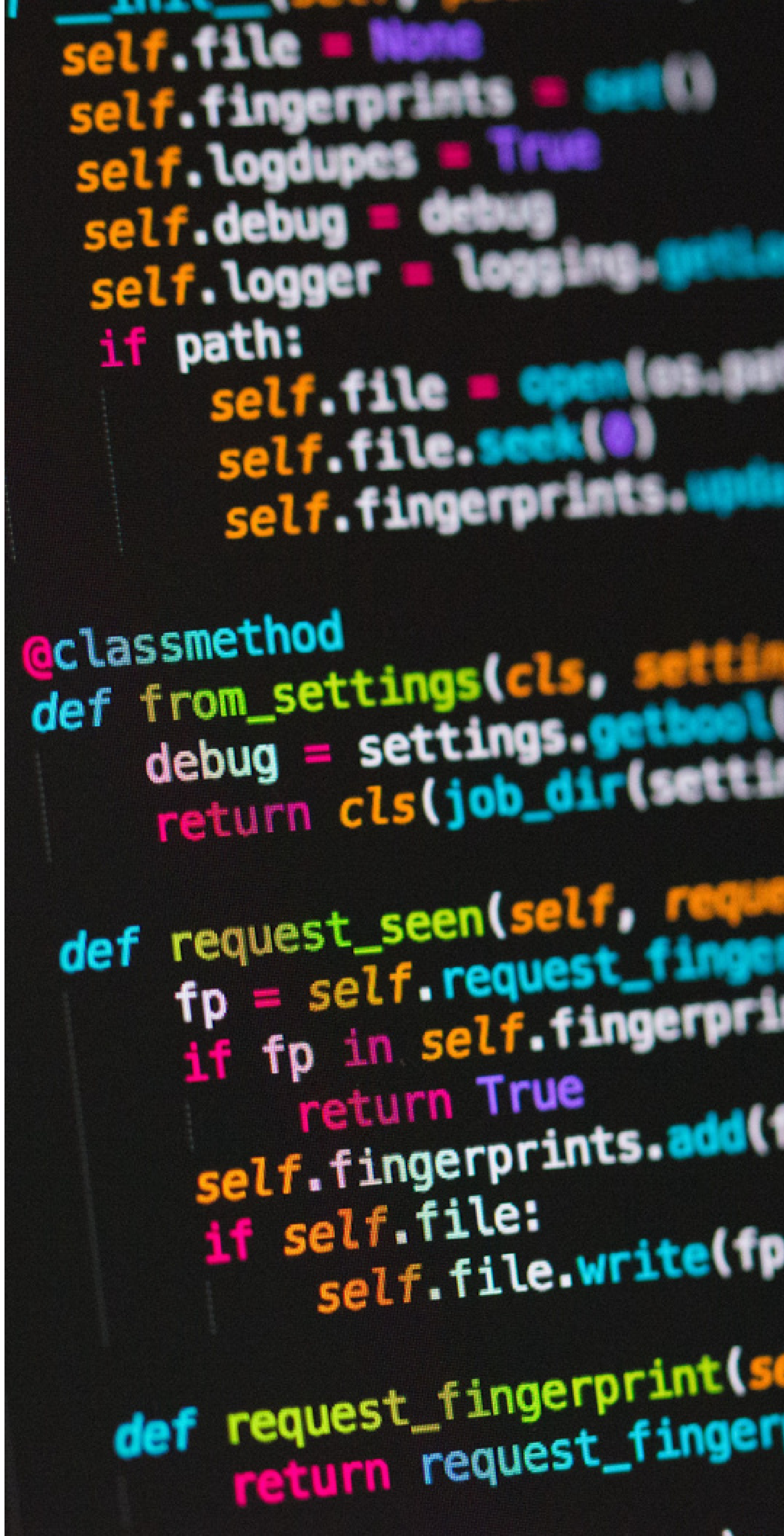
WHY PYTHON?

- Python works on different platforms (Windows, Mac, Linux,Raspberry Pi, etc).
- Python has a simple syntax similar to the English language.
- Python has **syntax** that allows developers to write programs with fewer lines than some other programming languages.
- Python runs on an **interpreter** system, meaning that code can be executed as soon as it is written. This means that prototyping can be very quick



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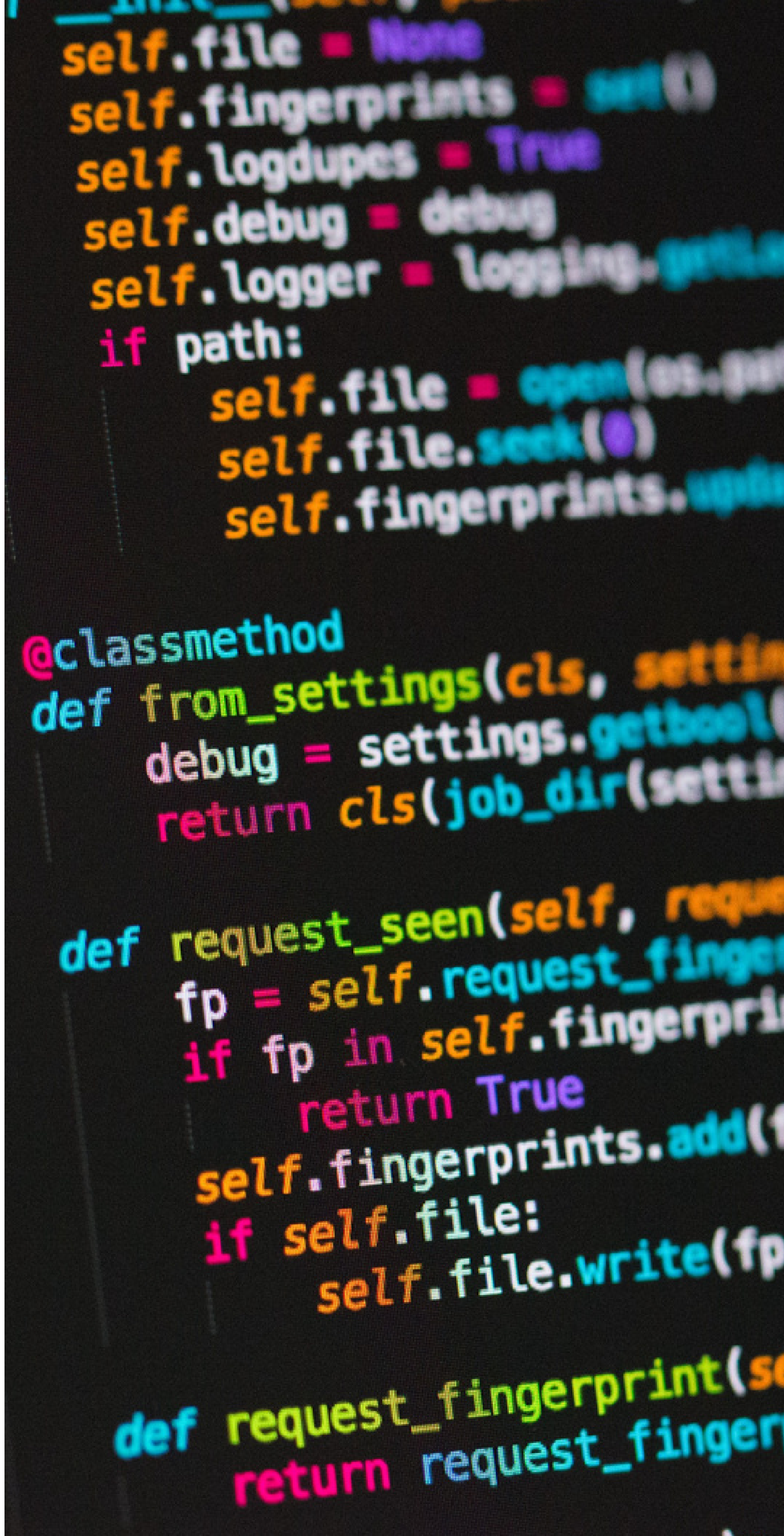

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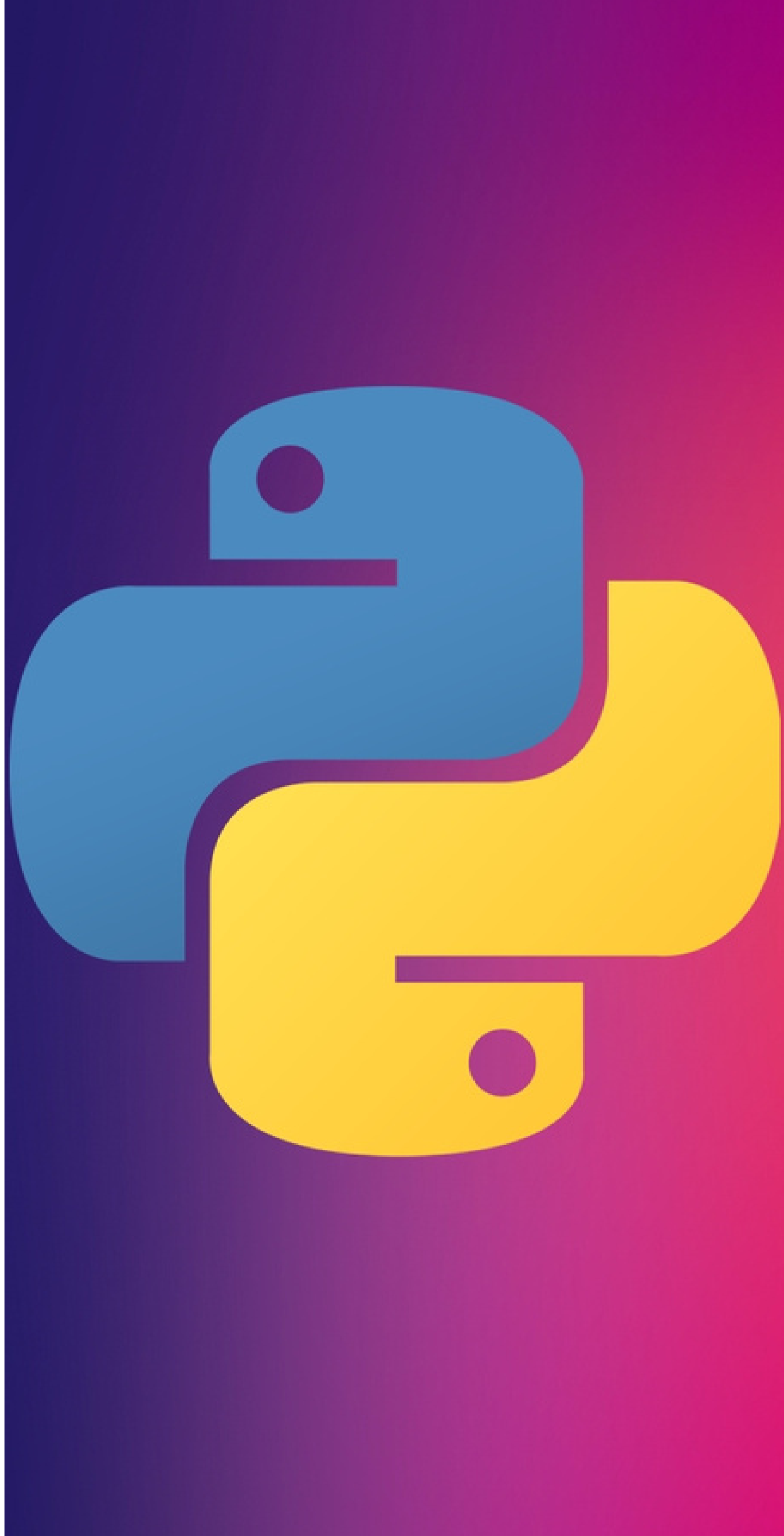
WHY PYTHON?

- Python can be treated in a procedural way, an object orientated way or a functional way

SYNTAX COMPARED TO OTHER PROGRAMMING LANGUAGES

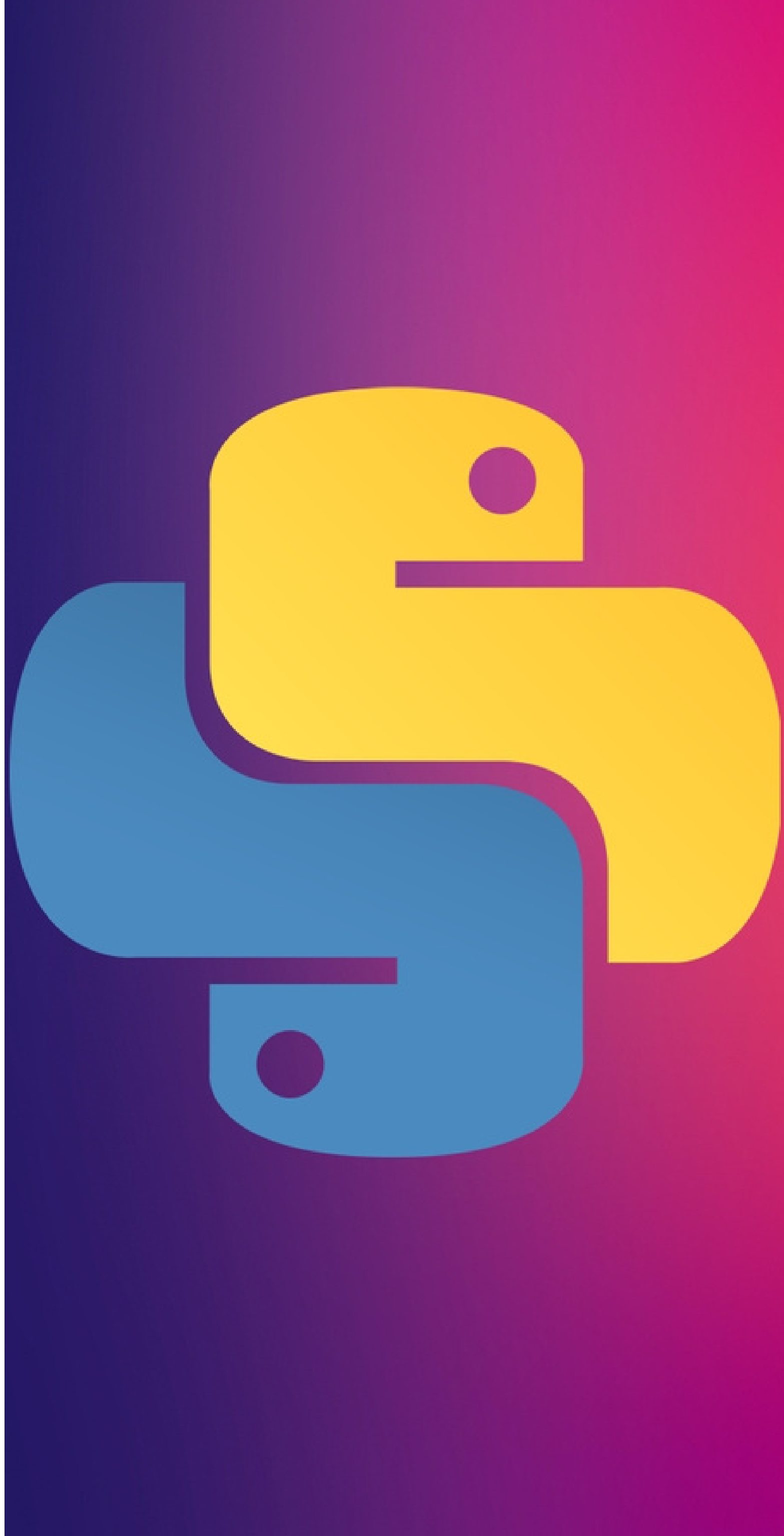
- Python was designed for **readability**, and has some similarities to the English language with influence from mathematics.
- Python uses **new lines** to complete a command, as opposed to other programming languages which often use semicolons or parentheses.
- Python relies on **indentation**,using whitespace,to define scope; such as the scope of loops, functions and classes.
- Other programming languages often use curly-brackets for this purpose



PYTHON QUICKSTART

PYTHON IS AN INTERPRETED PROGRAMMING LANGUAGE

- This means that as a developer you write Python (.py) files in a text editor and then put those files into the python interpreter to be executed
- Let's write our first Python file called **helloworld.py**, which can be done in any text editor.



```python
print("Hello,World!")
```

Congratulations,
you have written
your first Python program

PYTHON COMMENTS

COMMENTS

- Comments can be used to explain Python code.
- Comments can be used to make the code more readable.
- Comments can be used to prevent execution when testing code.
- Creating a Comment
- Comments **starts with a #**, and Python will ignore them:

COMMENT

```
#this is a comment
print(“hello world”)
```

Output will be hello world.

Comments can also be placed at the end of a line, and Python will
ignore the rest of the line:

```
print(“hello python”) #this outputs hello python
```

COMMENT

Comments does not have to be text to explain the code, it can also be used to prevent Python from executing code.

```
#adding two numbers
#print (sum of a and b)
a=20
b=30
print(a+b)
#output 50
```

MULTIPLE COMMENTS

Python does not really have a syntax for multi line comments.
To add a multi-line comment you could insert a # for each line, like the above example.
Also, since Python will ignore string literals that are not assigned to a variable, you can add a multi-line string (triple quotes) in your code, and place you comment inside it:

```
“””
THIS IS FIRST LINE COMMENT
THE SECOND LINE COMMENT
THIS IS A NOTHER COMMENT
“””” 
print(“hello world”)
```

MULTIPLE COMMENTS

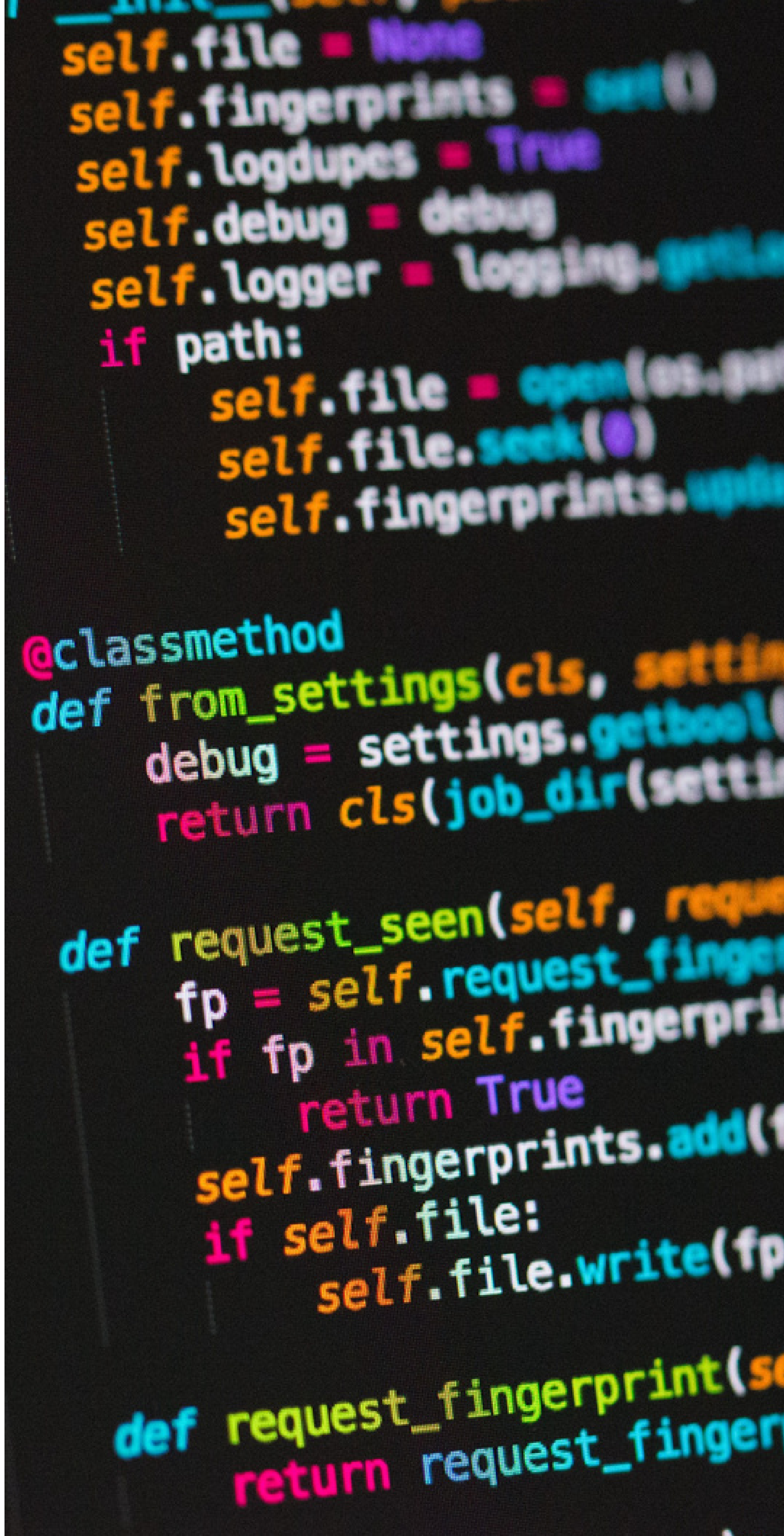
As long as the string is not assigned to a variable, Python will read the code, but then ignore it, and you have made a multi-line comment.

PYTHON VARIABLES

PYTHON VARIABLES

- Variables are containers for storing data values.
- Unlike other programming languages, Python has no command for declaring a variable.
- A variable is created the moment you first assign a value to it

```
X=20
y=40
print(x)
print(y)
```



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PYTHON VARIABLES

Variables do not need to be declared with any particular type and can even change type after they have been set.

Variable Names

A variable can have a short name (like x and y) or a more descriptive name (age, carname, total_volume)

Rules for Python variables:

•A variable name must start with a letter or the underscore character

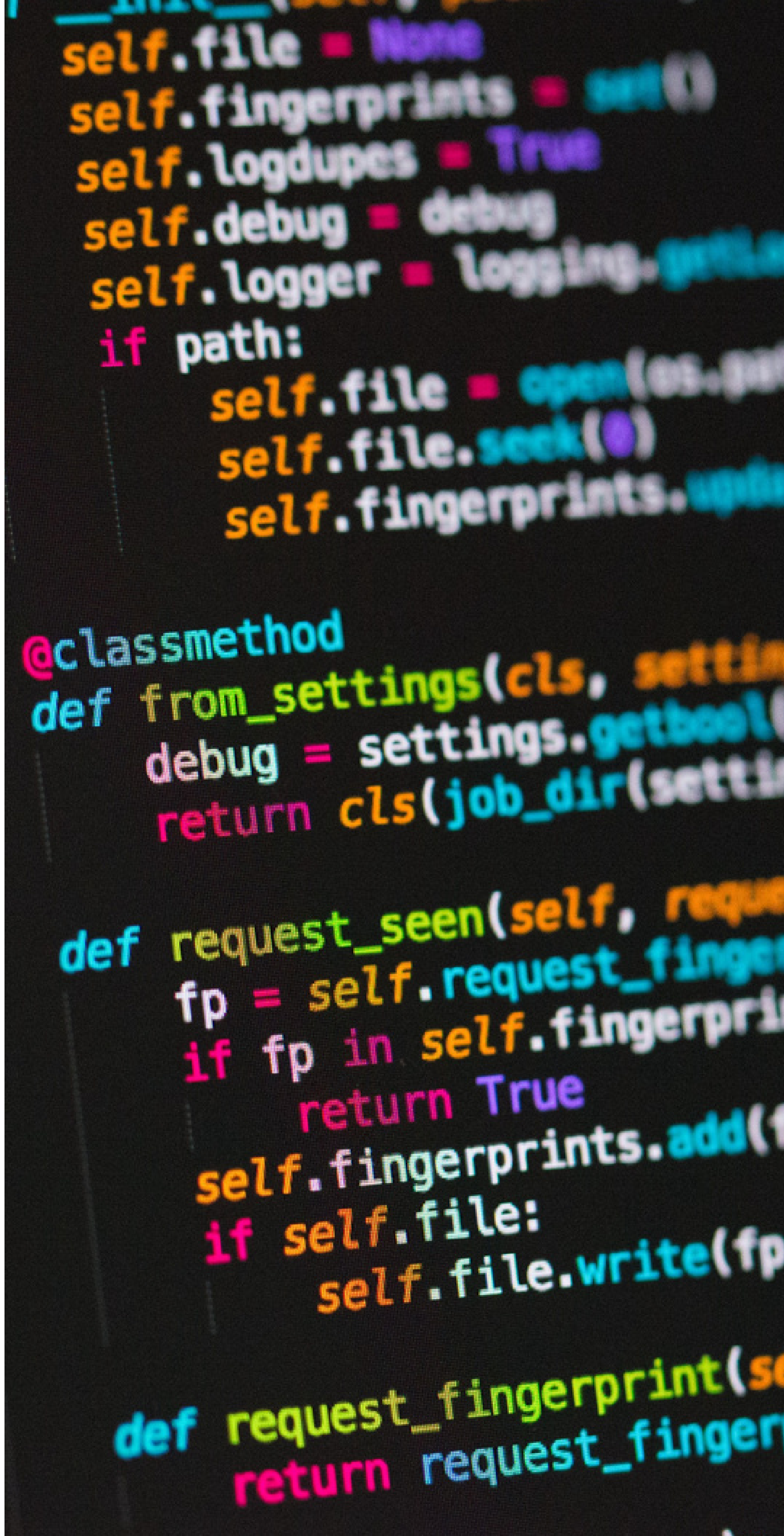
•A variable name cannot start with a number

•A variable name can only contain alpha-numeric characters and underscores (A-z, 0-9, and _)

•Variable names are case-sensitive (age, Age and

PYTHON VARIABLES

- Variable names are case-sensitive (age, Age and AGE are three different variables)
- **Remember that variable names are case-sensitive**



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NEXT TOPIC

- PYTHON VARIABLES
- PYTHON OPERATORS