CITY
UNIVERSITY OF LONDON
EST 1894

STEM Digital Academy

School of Science & Technology

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Introducing Python

Programming and Algorithms

Lecture by

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```
n = 3
for i in range(1,n+1):
    print("Hello World!")
```

```
Hello World!
Hello World!
Hello World!
```

What will we Cover?

- Introduction to the Python environment
- Key features in Python
- Installing Jupyter Notebooks (Optional)

Why Python?

- **Simple** to learn
- **Free** to use
- **Cross-platform** – runs on most machines (Windows, Mac OS and Linux)
- Many **advanced features**, including libraries
- **Object oriented** (OOP) – not covered on this module, but covered in the next module

Python Uses

Python is one of the most popular programming languages.

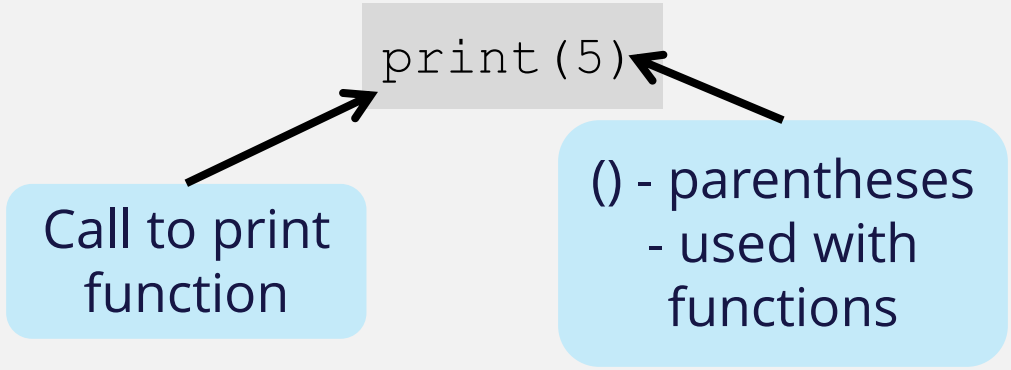
It is used for:

- Web applications
- Data analytics
- Artificial intelligence
- Game development

Statements

A **statement** is an instruction that the Python interpreter can execute

Example An instruction to display the number 5



Note: functions will be covered later in the course

Comments

- Indicated by # character
  - Anything following # to the end of line is a comment
- Used for notes or summaries about a program or code
- Ignored by the Python interpreter when the code is executed

Example

```
# This program prints 5
print(5)
```

Blank Lines

- Separate code segments
- Improve code readability
- Ignored by the Python interpreter

Example

```
print(1)

print(2)
```

Indentation

- Correct indentation is important in Python
- Statements should start at the beginning of a line
  - unless they are a part of a block

Example

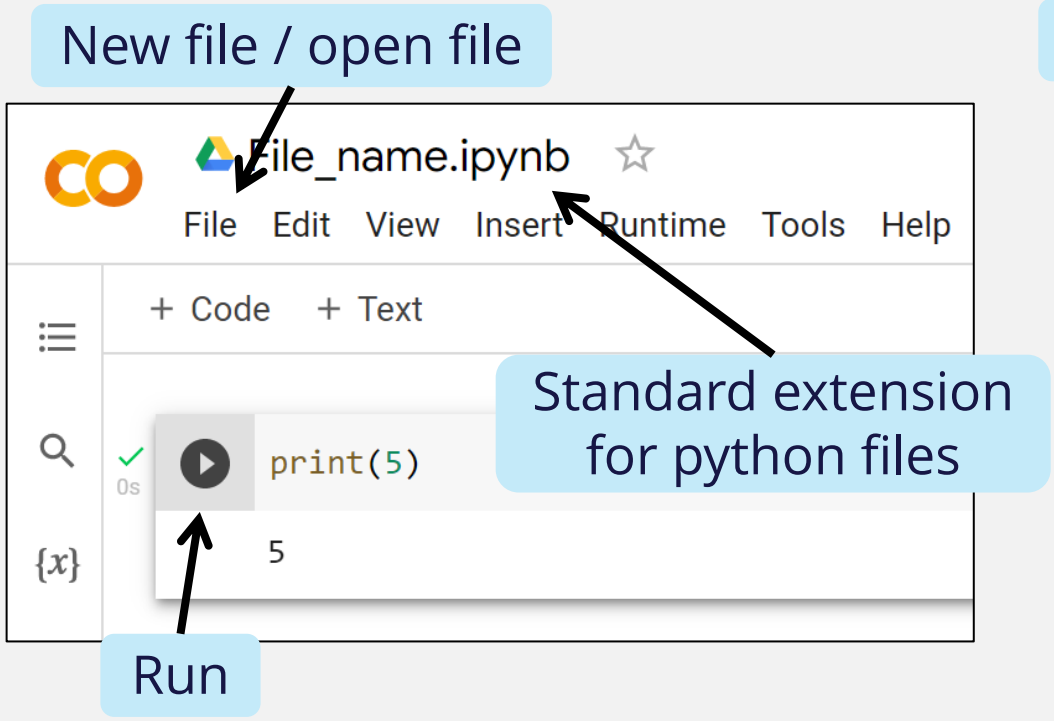
Error – incorrect indentation →

```
# This program prints messages
print("Hello world!")
 print("Welcome to Python")
print("Python is fun")
```

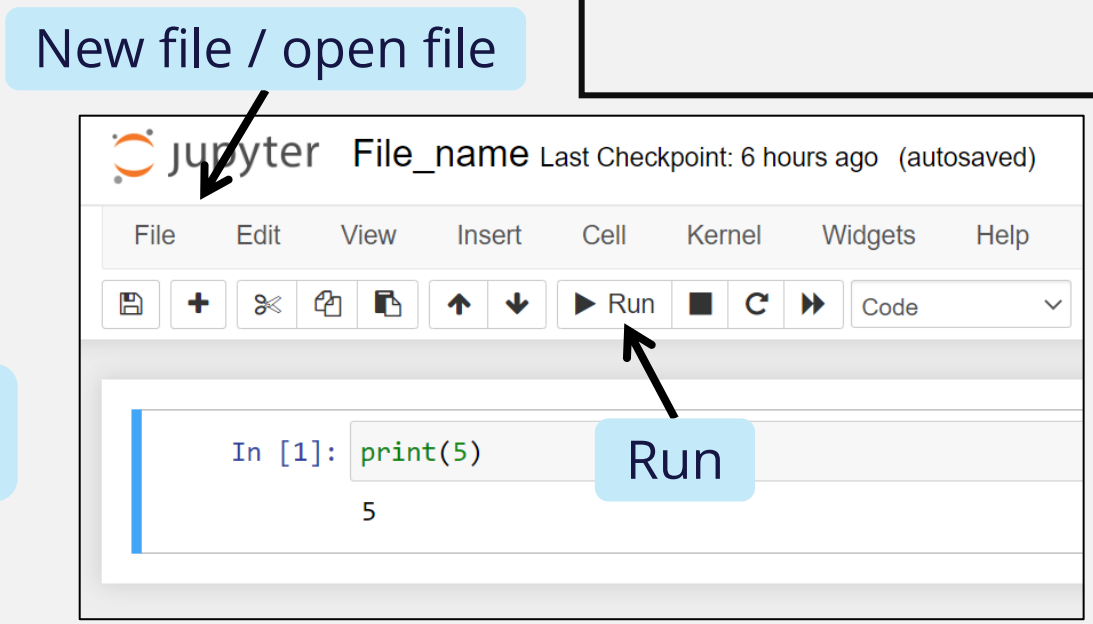
Note: indentation in Python is used for blocks

Python Environment

Google Colaboratory (Colab)



Jupyter Notebooks



Python Environment

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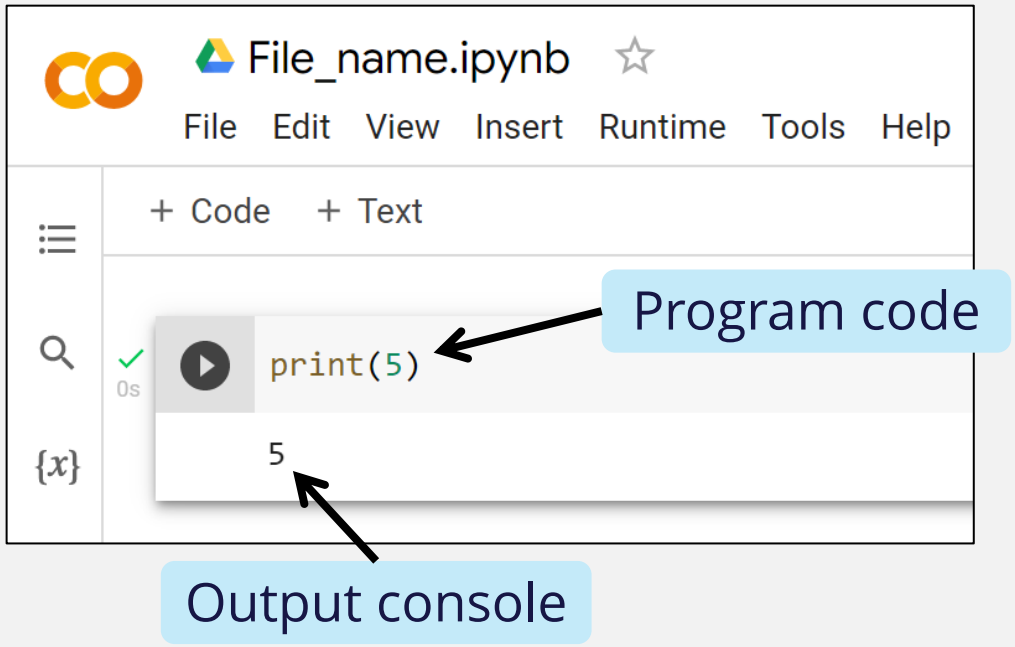
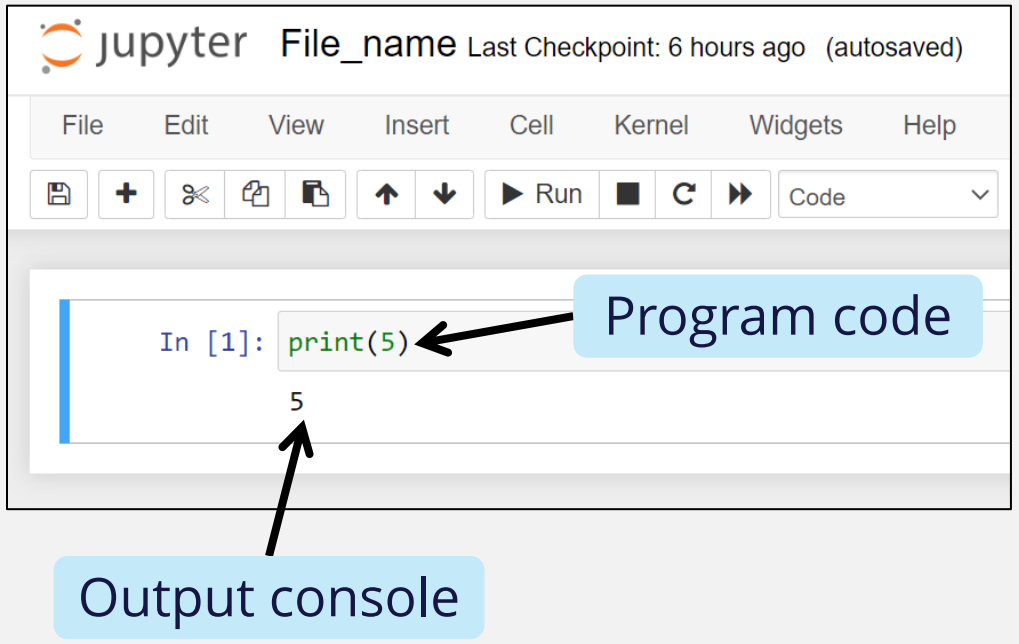


Jupyter Notebooks



Try It Yourself

Enter and run the following statements in the python environment:

```
print(1)
```

```
print(2.0)
```

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

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