



ICT Learning Centre @ UL - Python and ML Foundations

Python – Introduction & IDE

Introduction to Python

A high-level, versatile programming language

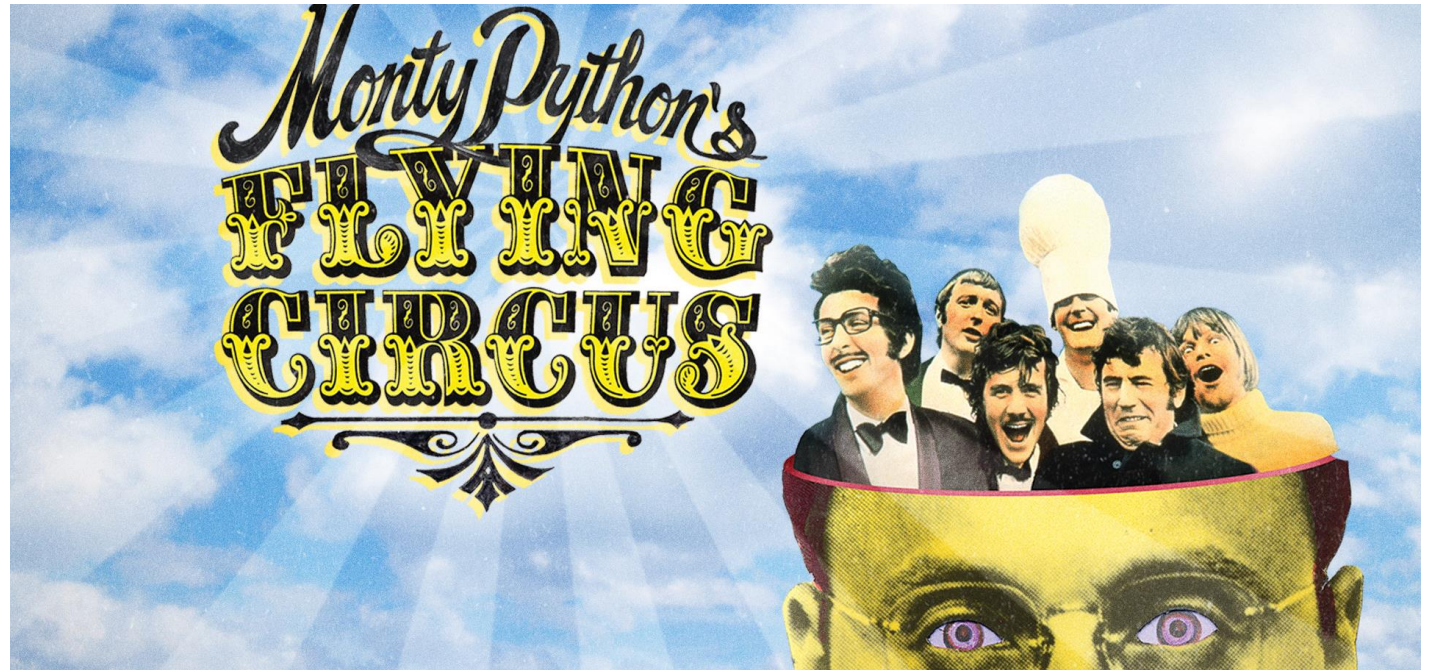


What is Python?

- High-level
- Versatile
- Intuitive syntax

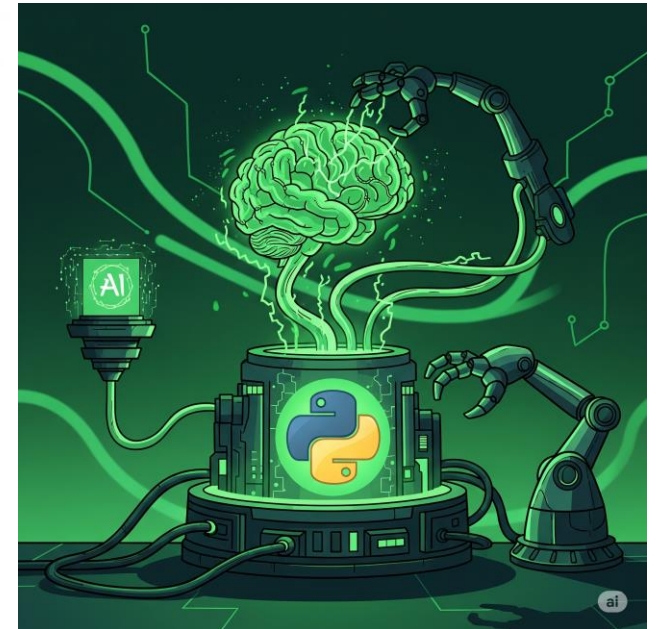
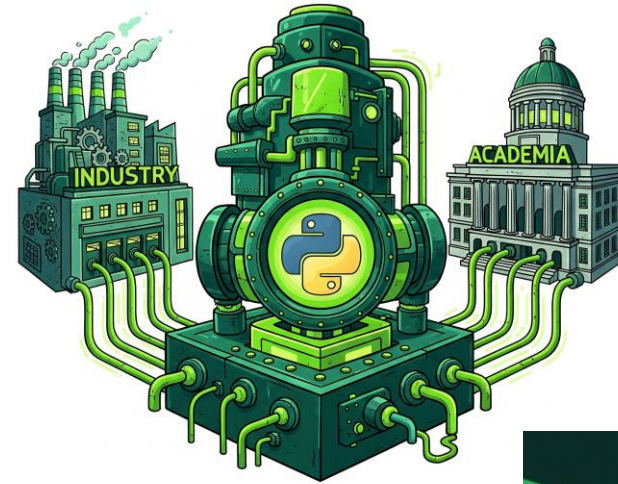
Fun fact:

Named after Guido Van Rossum's favourite British comedy troupe, Monty Python's Flying Circus!



Why Python?

- Dominant in industry and academia
- Language of choice for AI & ML
- Versatile and easy to learn
- Powerful libraries and ecosystem



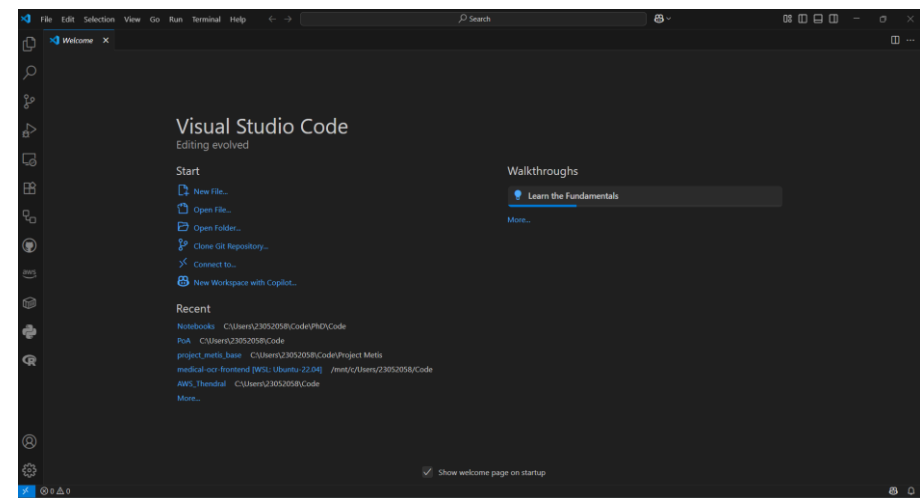
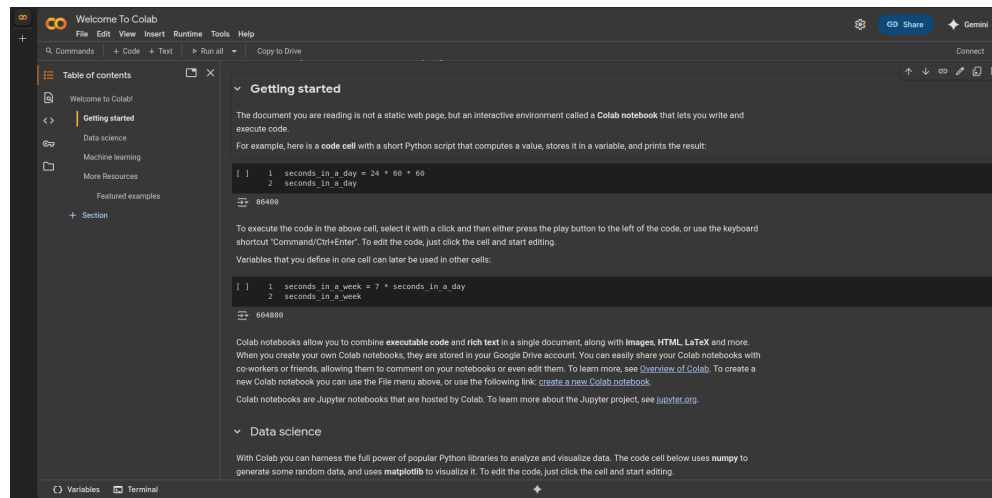
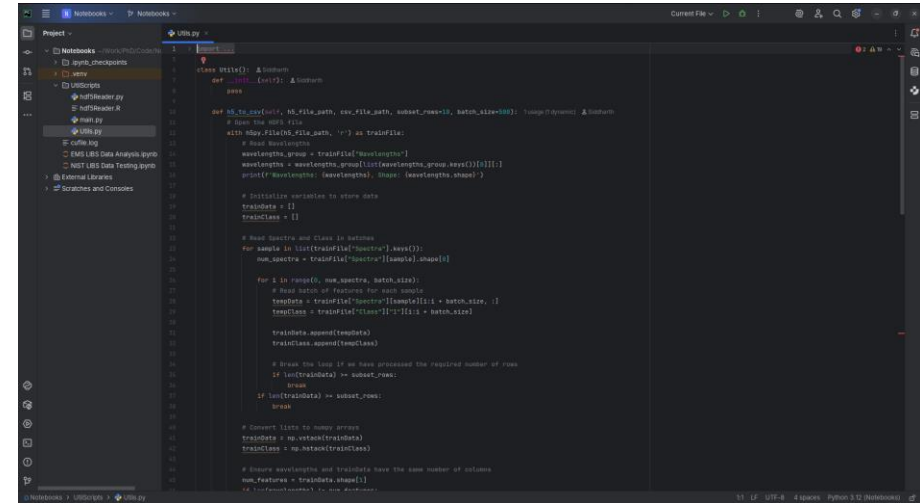
IDE – Google Colab

Your python workspace

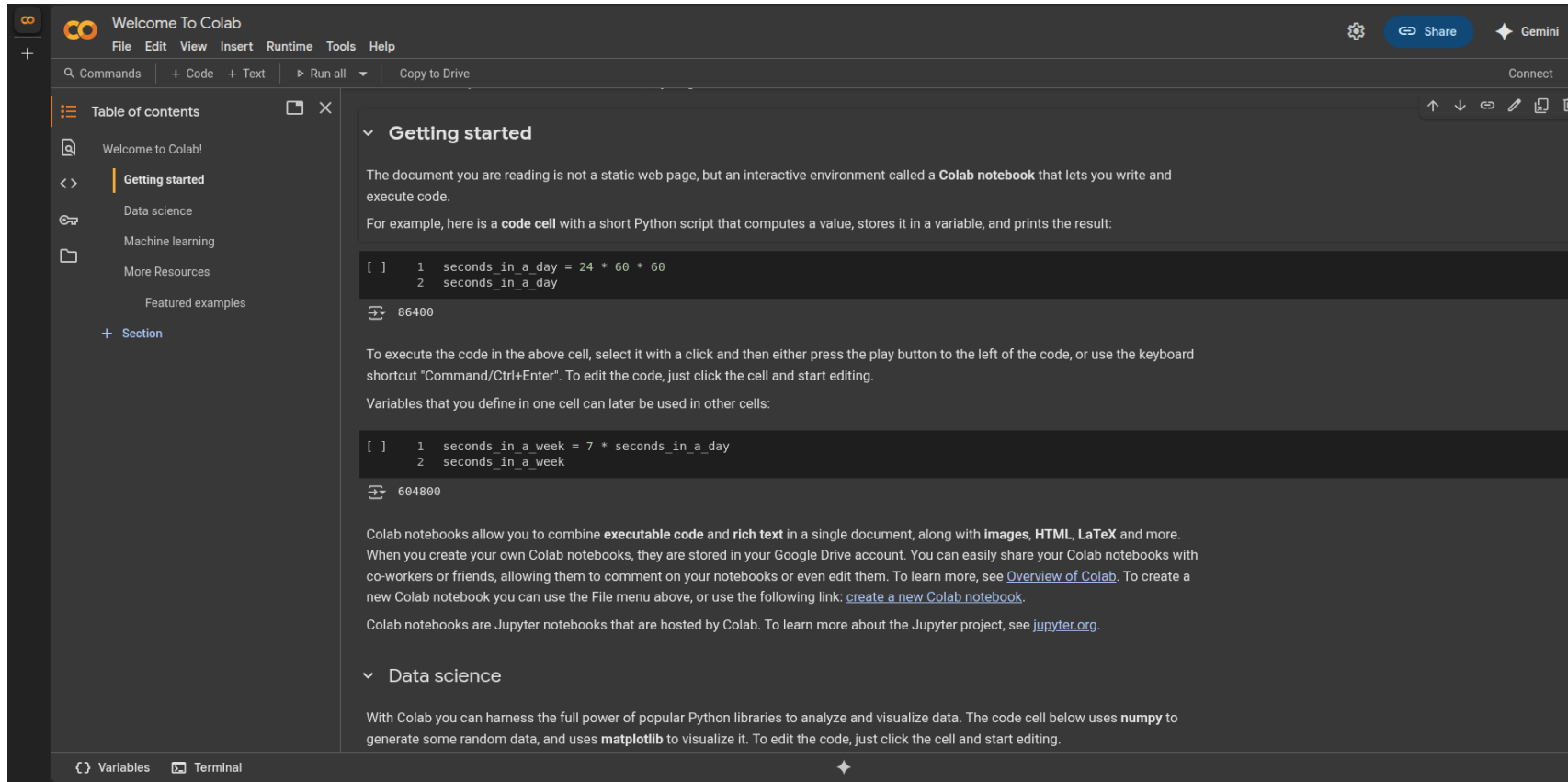


What is an IDE?

- Integrated Development Environment
- A programmer's workshop



Google Colab(oratory)



The screenshot displays the Google Colab web interface. On the left, a sidebar contains a 'Table of contents' with links to 'Welcome to Colab!', 'Getting started' (highlighted), 'Data science', 'Machine learning', 'More Resources', and 'Featured examples'. The main area is titled 'Getting started' and contains the following text:

The document you are reading is not a static web page, but an interactive environment called a **Colab notebook** that lets you write and execute code.

For example, here is a **code cell** with a short Python script that computes a value, stores it in a variable, and prints the result:

```
[ ] 1 seconds_in_a_day = 24 * 60 * 60
    2 seconds_in_a_day
```

86400

To execute the code in the above cell, select it with a click and then either press the play button to the left of the code, or use the keyboard shortcut "Command/Ctrl+Enter". To edit the code, just click the cell and start editing.

Variables that you define in one cell can later be used in other cells:

```
[ ] 1 seconds_in_a_week = 7 * seconds_in_a_day
    2 seconds_in_a_week
```

604800

Colab notebooks allow you to combine **executable code** and **rich text** in a single document, along with **images**, **HTML**, **LaTeX** and more. When you create your own Colab notebooks, they are stored in your Google Drive account. You can easily share your Colab notebooks with co-workers or friends, allowing them to comment on your notebooks or even edit them. To learn more, see [Overview of Colab](#). To create a new Colab notebook you can use the File menu above, or use the following link: [create a new Colab notebook](#).

Colab notebooks are Jupyter notebooks that are hosted by Colab. To learn more about the Jupyter project, see [jupyter.org](#).

Below the main content, there is a section titled 'Data science' which begins with the text: 'With Colab you can harness the full power of popular Python libraries to analyze and visualize data. The code cell below uses **numpy** to generate some random data, and uses **matplotlib** to visualize it. To edit the code, just click the cell and start editing.'

At the bottom of the interface, there are tabs for 'Variables' and 'Terminal'.

Thank you



University of Limerick,
Limerick, V94 T9PX,
Ireland.
Ollscoil Luimnigh,
Luimneach,
V94 T9PX, Éire.
+353 (0) 61 202020

ul.ie

ICT Learning Centre,
CS1-046,
CSIS Building,
University of Limerick,

<http://ictlc.ul.ie/contactus>