SWITCH IT ON
ТВІЙ СТАРТ В IT

YOUR FIRST CODE: PYTHON PRACTICAL WORKSHOP

LIUBOV KOLIASA
SoftServe Academy Mentor

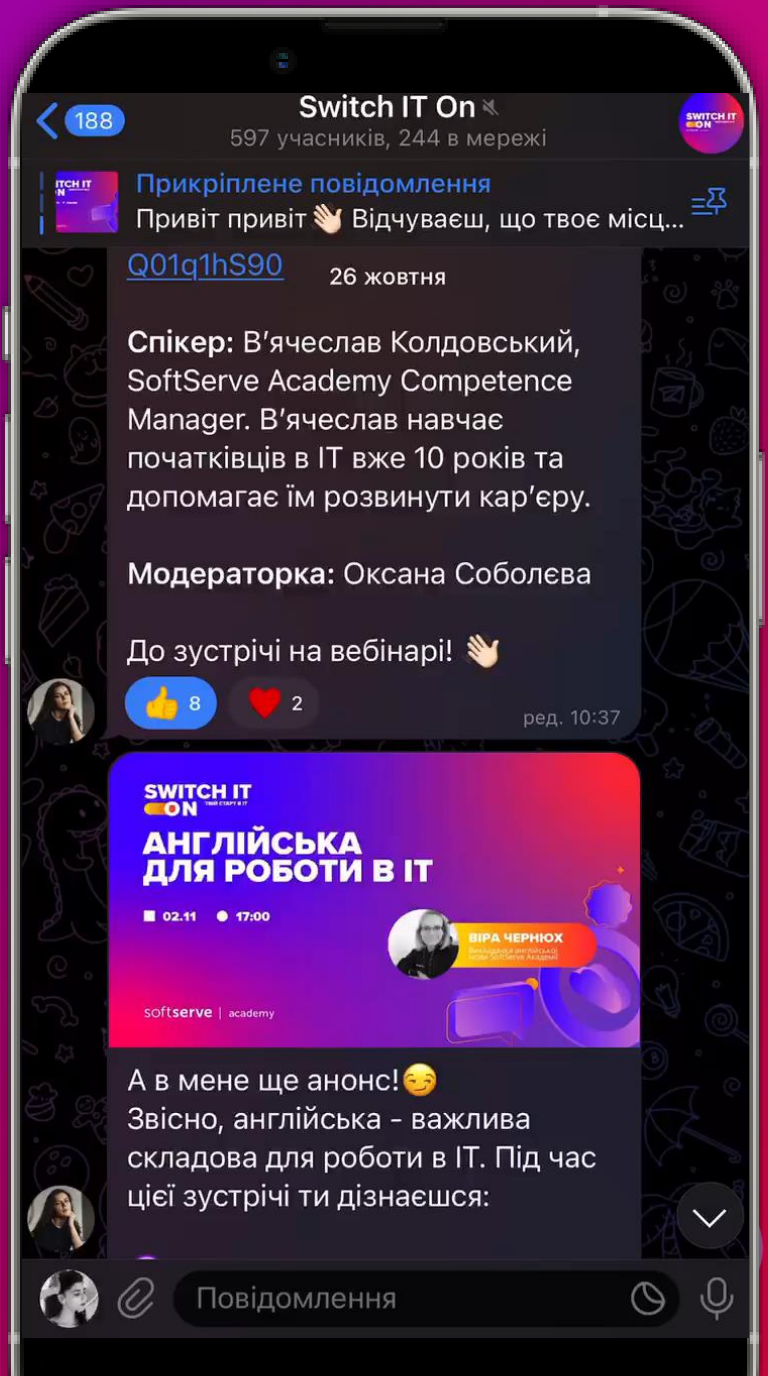
softserve | academy

ABOUT MYSELF

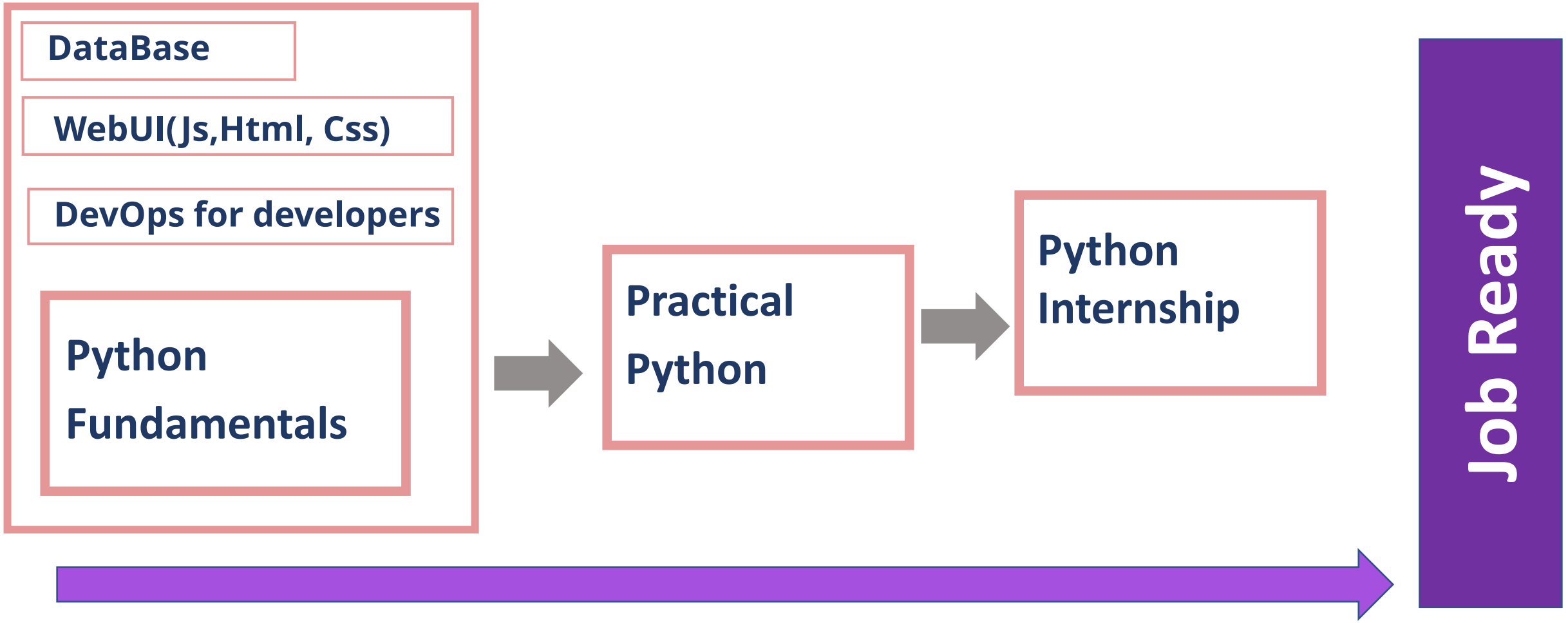
- I have worked at SoftServe for 5 years
- Academy Mentor at SoftServe
- Academy Lead of Python Direction
- Technologies: Python,
  Web UI: HTML/CSS/JS,
  QC

JOIN OUR TELEGRAM CHAT

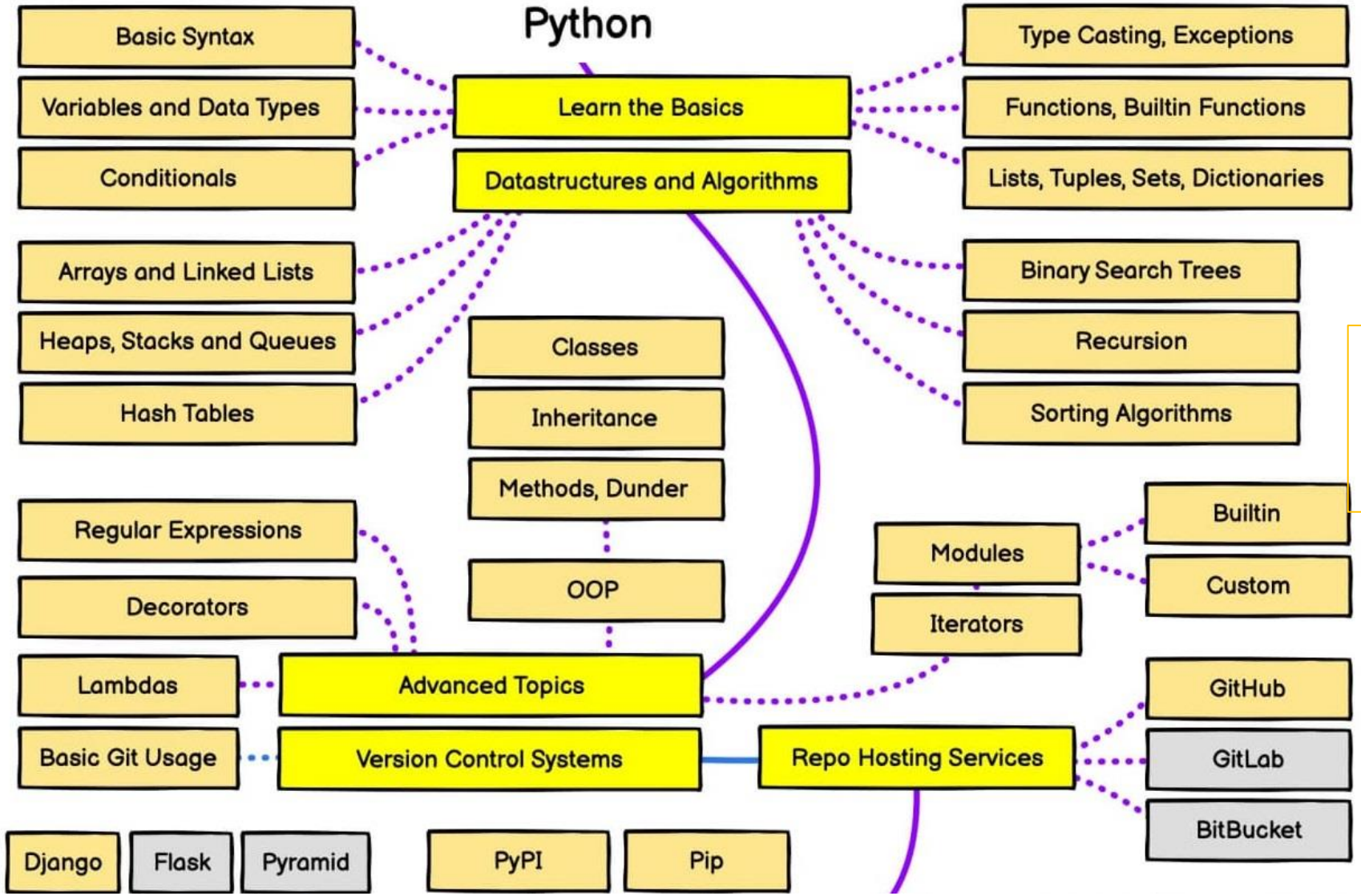
softserve | academy



PYTHON: ROAD MAP



WHAT WILL YOU GET BY LEARNING PYTHON FUNDAMENTALS?



Additionally:

- SoftServe Academy English Speaking Club
- Event invitations from Academy

PYTHON FEATURES

- **Python** is a programming language:

Easy to learn ⇒ **simple syntax**

⇒ **easy to setup; the standard library is large**

other languages:

```
class HelloWorld {
    public static void main(String[] args) {
        System.out.println("Hello, World!");
    }
}
```

Python:

```
print('Hello, world!')
```


PYTHON IS A PROGRAMMING LANGUAGE:

Easy to learn

Many libraries

Large community

Multipurpose

Python is used in:

- Web Development
- Data Science
- Machine Learning
- Artificial Intelligence
- Web Scraping
- Mobile Development
- Game Development
- Desktop Development
- Automate DevOps tasks
- Automate general task

PYTHON OVERVIEW

YouTube 

Spotify 

Instagram 

Dropbox 

Cisco 

Walt Disney Feature Animation 

Yahoo 

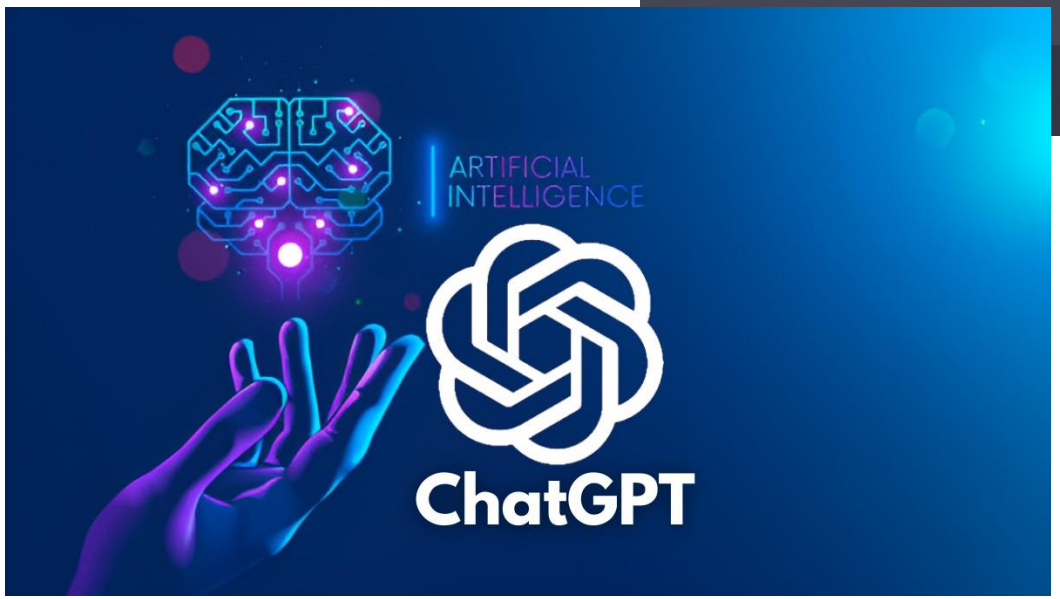
Pinterest 

Google 

NASA 

PYTHON OVERVIEW

The language used to create ChatGPT is Python. Python is a popular programming language used in various fields including artificial intelligence and natural language processing. The team at OpenAI likely used various Python libraries and frameworks to develop and train the ChatGPT model.



PYTHON HISTORY

Python was created by Guido van Rossum and was first released in 1991.

Python 1.0 - January 1994
- Python 1.5 - December 31, 1997
- Python 1.6 - September 5, 2000

Python 2.0 - October 16, 2000
- Python 2.1 - April 17, 2001
- Python 2.2 - December 21, 2001
- Python 2.3 - July 29, 2003
- Python 2.4 - November 30, 2004
- Python 2.5 - September 19, 2006
- Python 2.6 - October 1, 2008
- Python 2.7 - July 3, 2010

Python 3.0 - December 3, 2008
- Python 3.1 - June 27, 2009
- Python 3.2 - February 20, 2011
- Python 3.3 - September 29, 2012
- Python 3.4 - March 16, 2014
- Python 3.5 - September 13, 2015
- Python 3.6 - December 23, 2016
- Python 3.7 - June 27, 2018
- Python 3.8 - October 14, 2019
- Python 3.9 - October 5, 2020
- Python 3.10 - October 4, 2021
- Python 3.11 - October 24, 2022

WHY PYTHON...?

ONLINE PYTHON COMPILER

https://replit.com/languages/python3

https://paiza.io/projects/sepDWD3s9TLX_8GKIvvbXA?language=python3

https://ideone.com/

https://www.tutorialspoint.com/execute_python_online.php

https://www.jdoodle.com/python3-programming-online

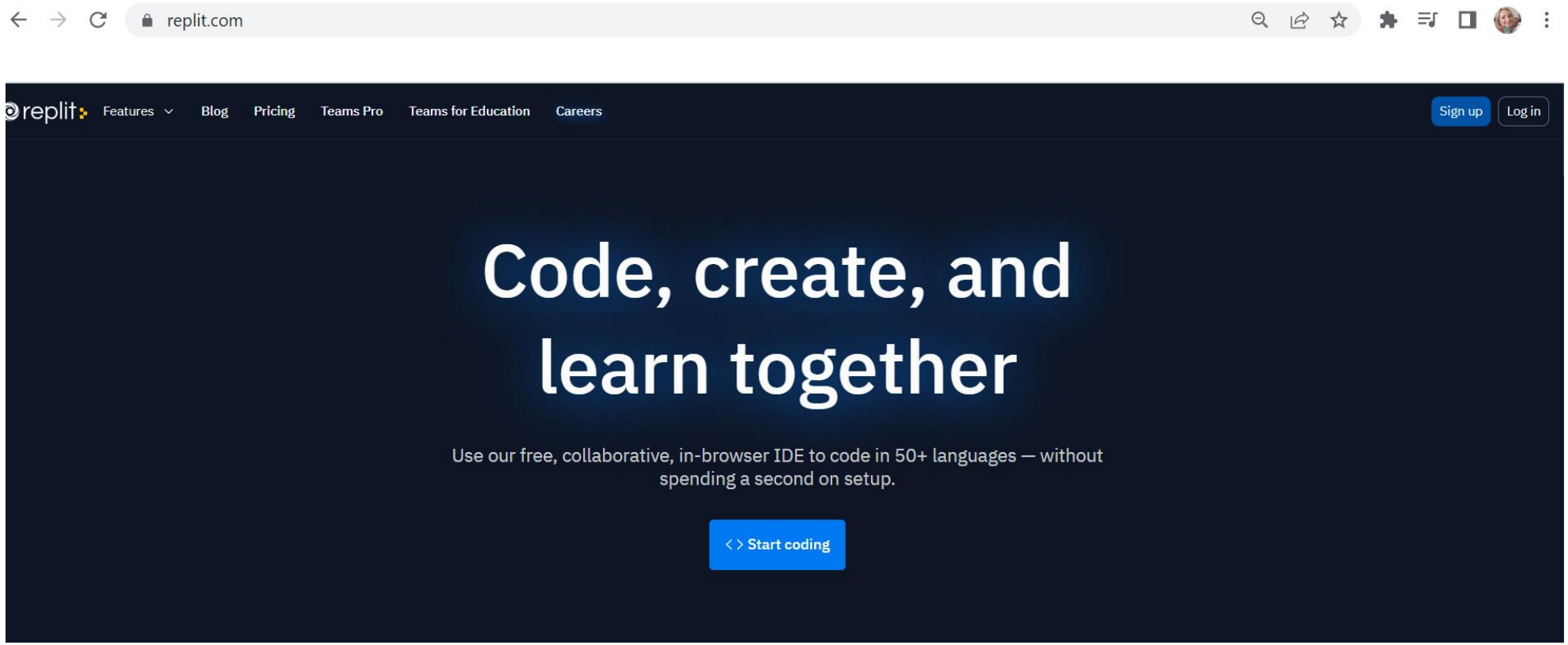
https://www.onlinegdb.com/online_python_compiler

https://ideone.com/

https://paiza.io/projects/sepDWD3s9TLX_8GKIvvbXA?language=python3

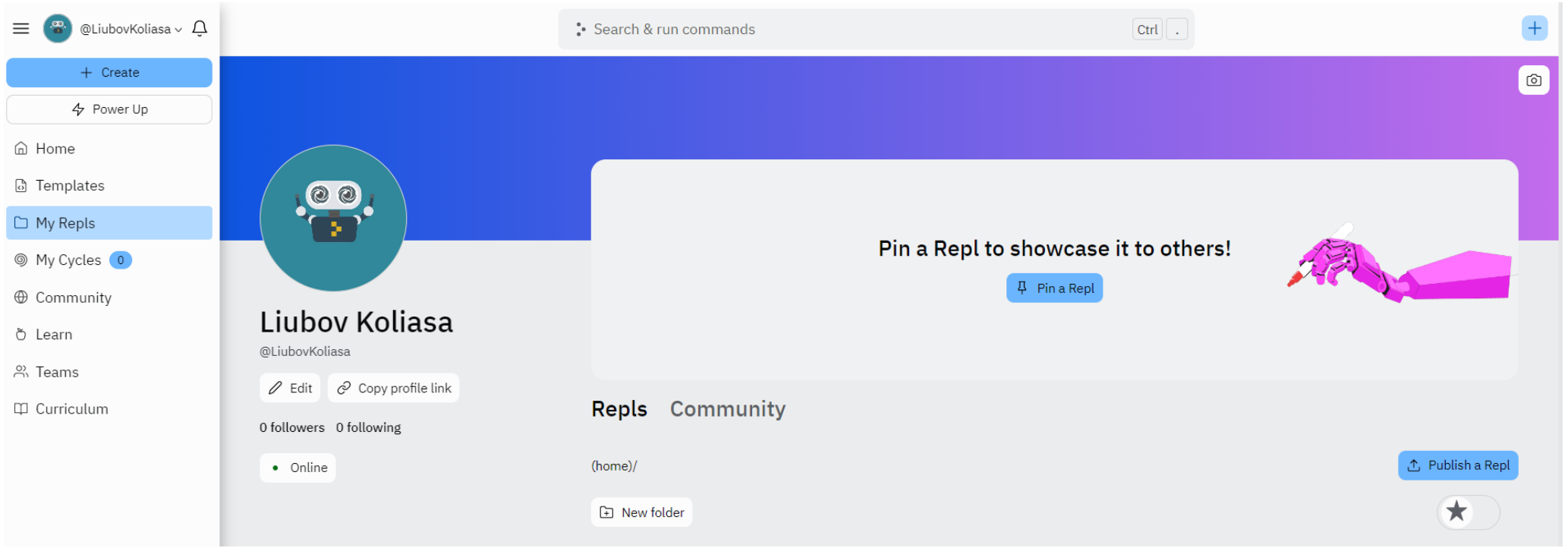
ONLINE PYTHON EDITOR – FOR EXAMPLE REPL.IT

https://replit.com/

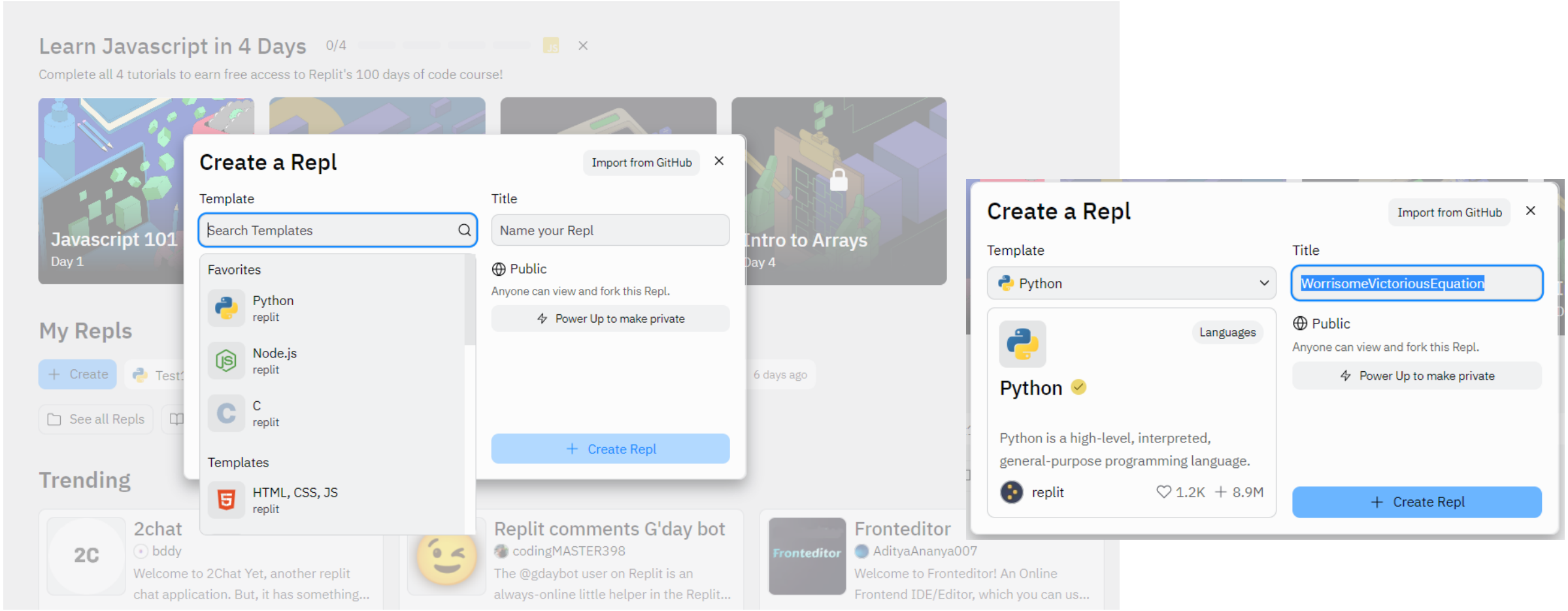


SIGN UP & LOG IN

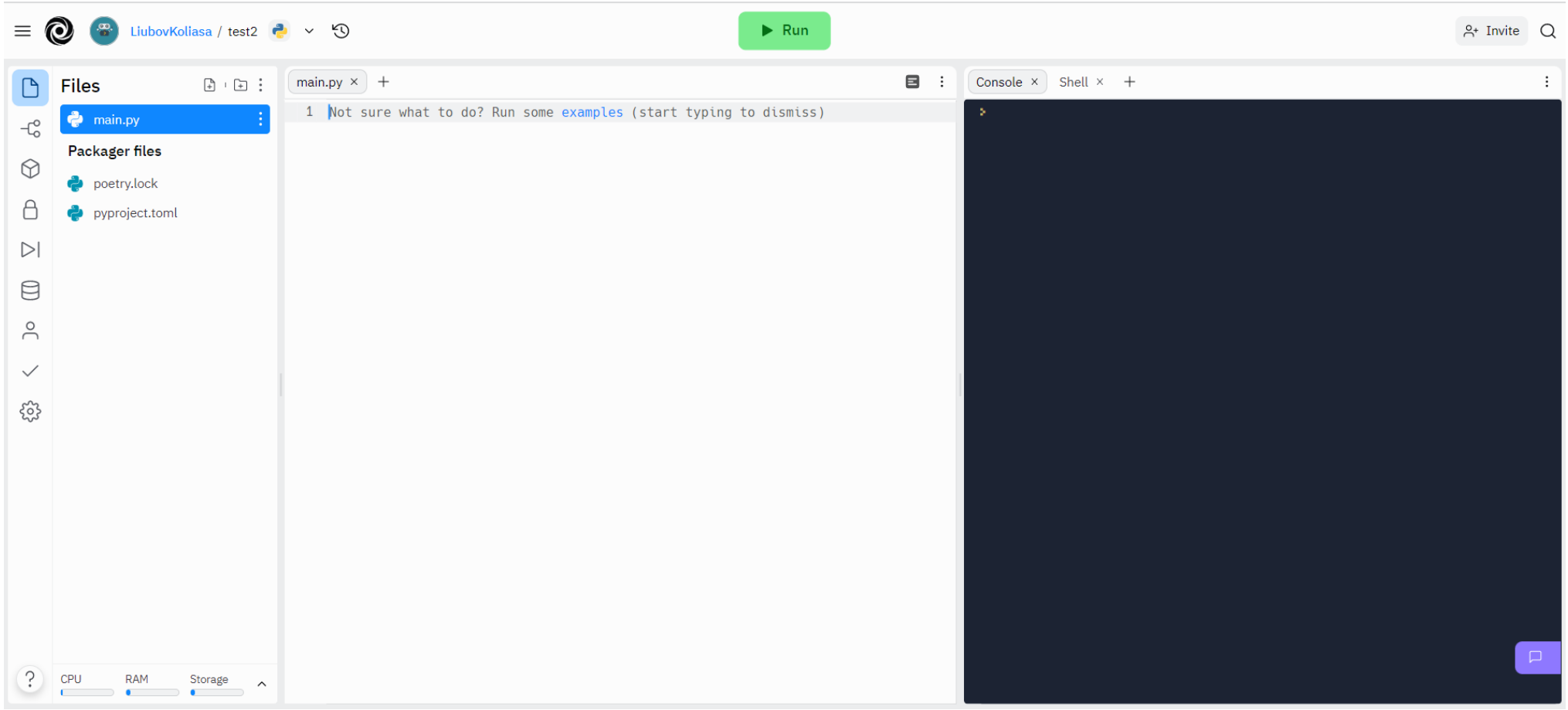
https://replit.com/



PYTHON REPL.IT

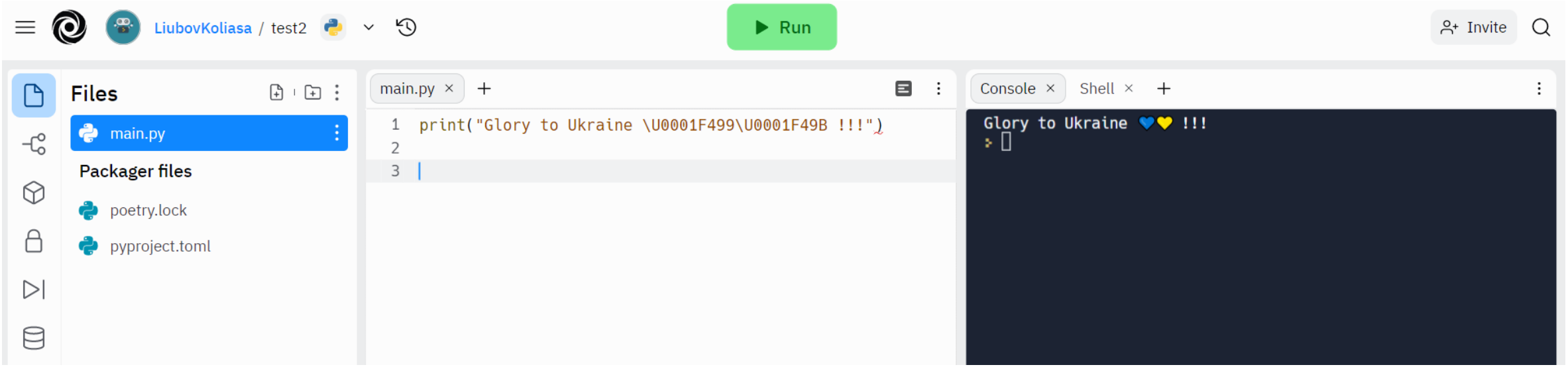


PYTHON REPL.IT



PYTHON. YOUR FIRST PROGRAM

PYTHON. YOUR FIRST PROGRAM



Full Emoji List:

https://unicode.org/emoji/charts-14.0/full-emoji-list.html

PYTHON. YOUR FIRST PROGRAM – TASK1

Welcome message program.

You need to:

- output the message «Hello world!!!»
- add to the greeting message any emoji from

https://unicode.org/emoji/charts-14.0/full-emoji-list.html

Source Code:

https://github.com/kolyasalubov/SourceRepo

PYTHON. YOUR SECOND PROGRAM

PYTHON. YOUR SECOND PROGRAM – TASK2

Number guessing game. You need to:

- increase the range to generate numbers to 40
- add a counter to count the number of attempts
- give the user only 10 tries to guess the number

Source Code:
https://github.com/kolyasalubov/SourceRepo

PYTHON. YOUR THIRD PROGRAM

Tkinter

API OpenWeather

Tkinter is the standard GUI library for Python. Python when combined with **Tkinter** provides a fast and easy way to create GUI applications.
https://docs.python.org/3/library/tkinter.html

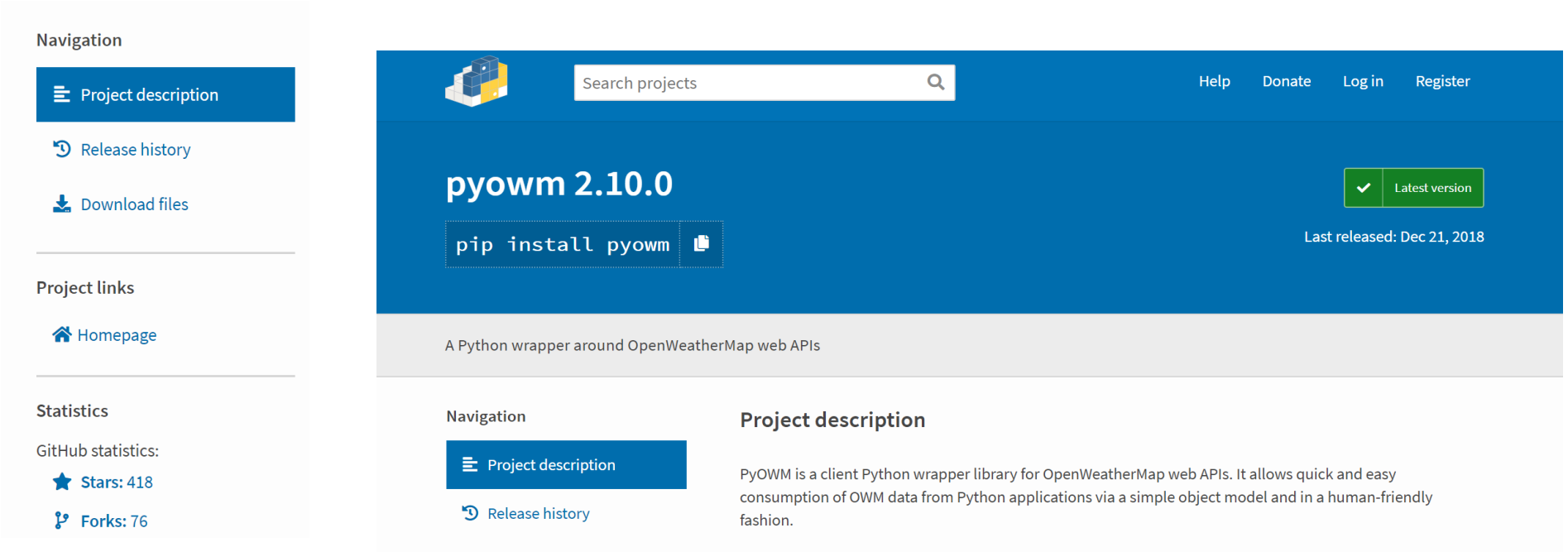
PyOWM

PyOWM is a client Python wrapper library for OpenWeatherMap (OWM) web APIs.
https://pypi.org/project/pyowm/

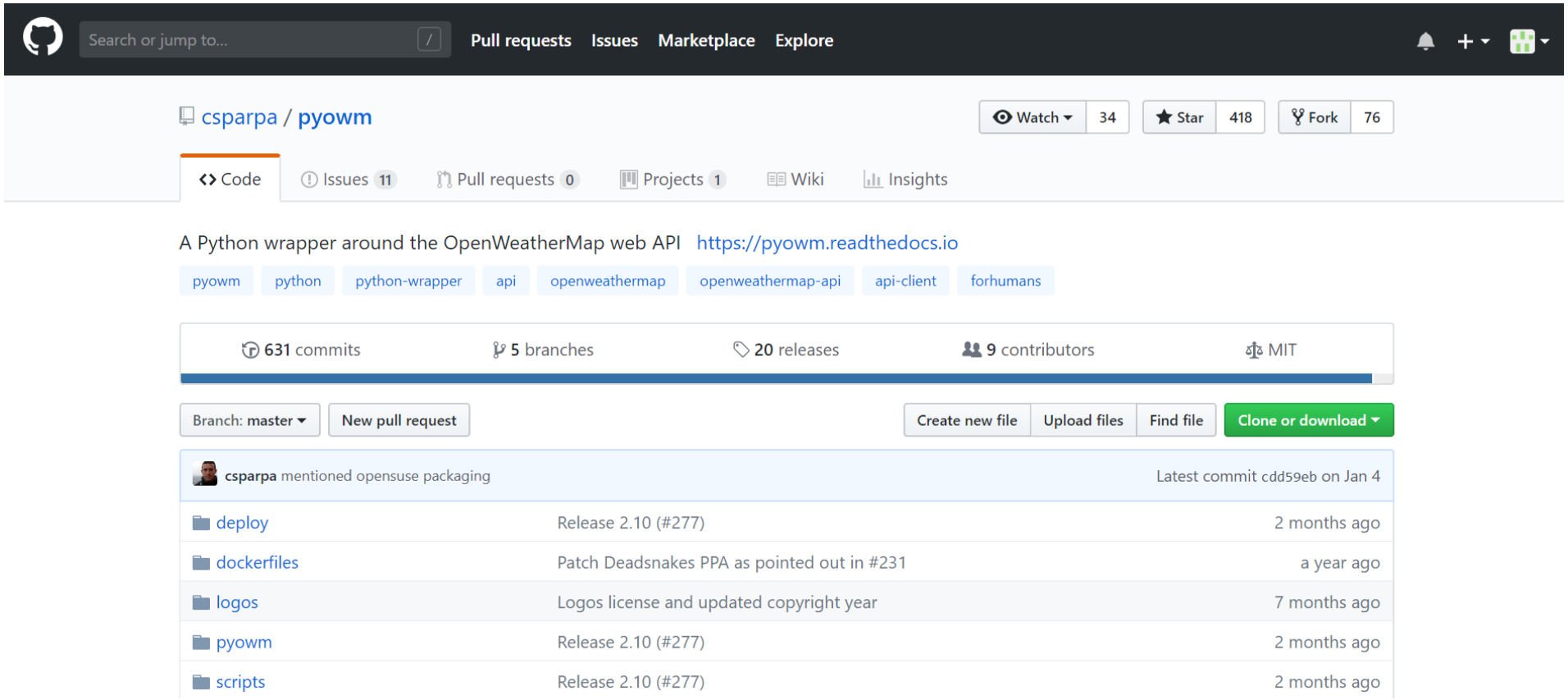
SUPPORTED ENVIRONMENTS AND PYTHON VERSIONS

PyOWM runs on Windows, Linux and MacOS. PyOWM runs on: Python 2.7, Python 3.4+
Notice that **support for Python 2.x will eventually be dropped**

https://pypi.org/



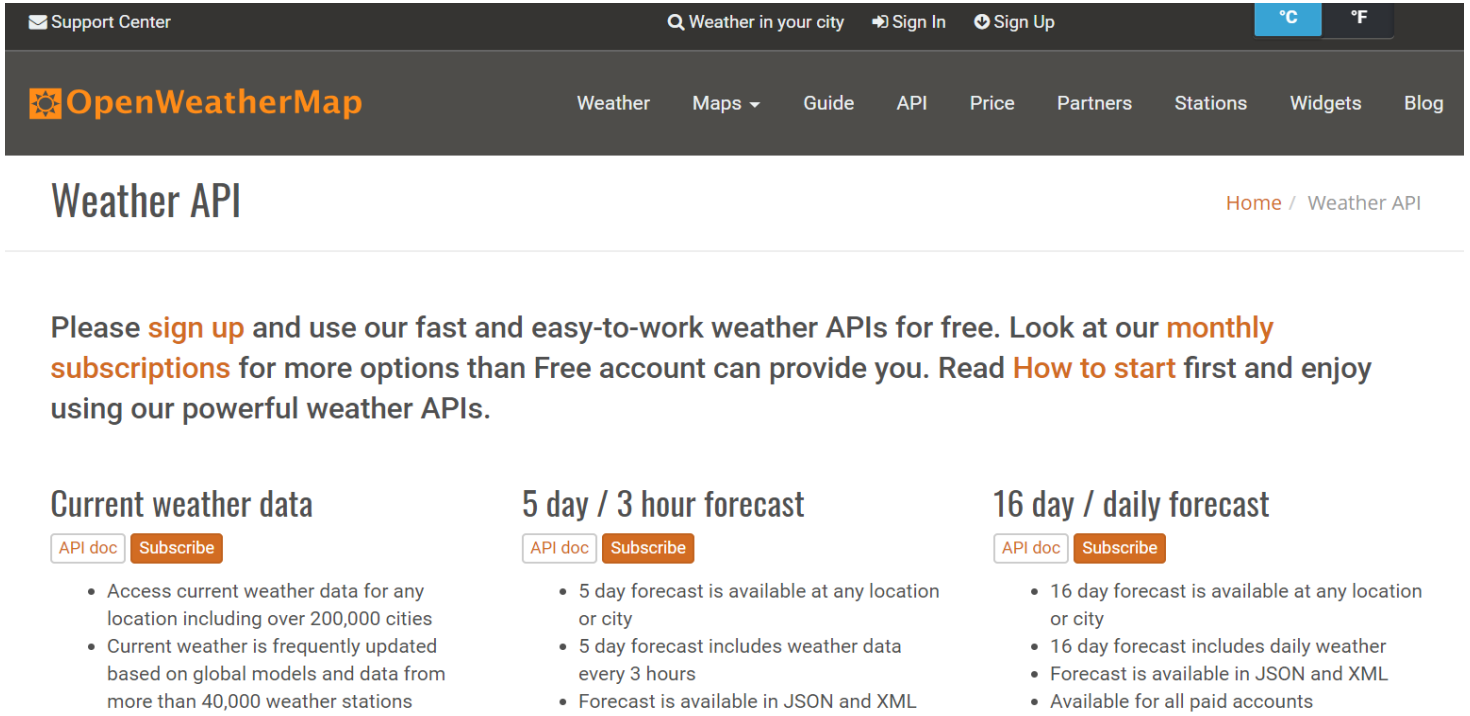
PYOWM DOCUMENTATION



PYOWM API KEY

As **OpenWeatherMap APIs** need a valid API key to allow responses, PyOWM won't work if you don't provide one.

This stands for both free and paid (pro) subscription plans.
You can signup for a **free API key** on the OWM website:
https://openweathermap.org



PYTHON. THIRD PROGRAM

```
#cmd: pip install pyowm

import pyowm

# ---------- FREE API KEY examples ---------------------

owm = pyowm.OWM('ef2206ff5da67de63306d0b143e20872')    # You MUST provide a valid API key

# Search for current weather in London (Great Britain) and get details
observation = owm.weather_at_place('London,GB')
w = observation.get_weather()

print(w.get_detailed_status())       # 'clouds'
print(w.get_wind())                  # {'speed': 4.6, 'deg': 330}
print(w.get_humidity())              # 87
print(w.get_temperature('celsius'))  # {'temp_max': 10.5, 'temp': 9.7, 'temp_min': 9.0}
print(w.get_rain)                    # {}
print(w.get_heat_index)              # None
print(w.get_clouds)                  # 75
```

PYTHON. YOUR THIRD PROGRAM

Program for receiving information about the weather. You need to:

- to combine two programs OWM.py and Tk_OWM.py into one working program

Source Code:
https://github.com/kolyasalubov/SourceRepo


softserve
THE FUTURE