



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

PYTHON: ROAD MAP

DataBase

WebUI(Js,Html, Css)

DevOps for developers

Python
Fundamentals



Practical
Python



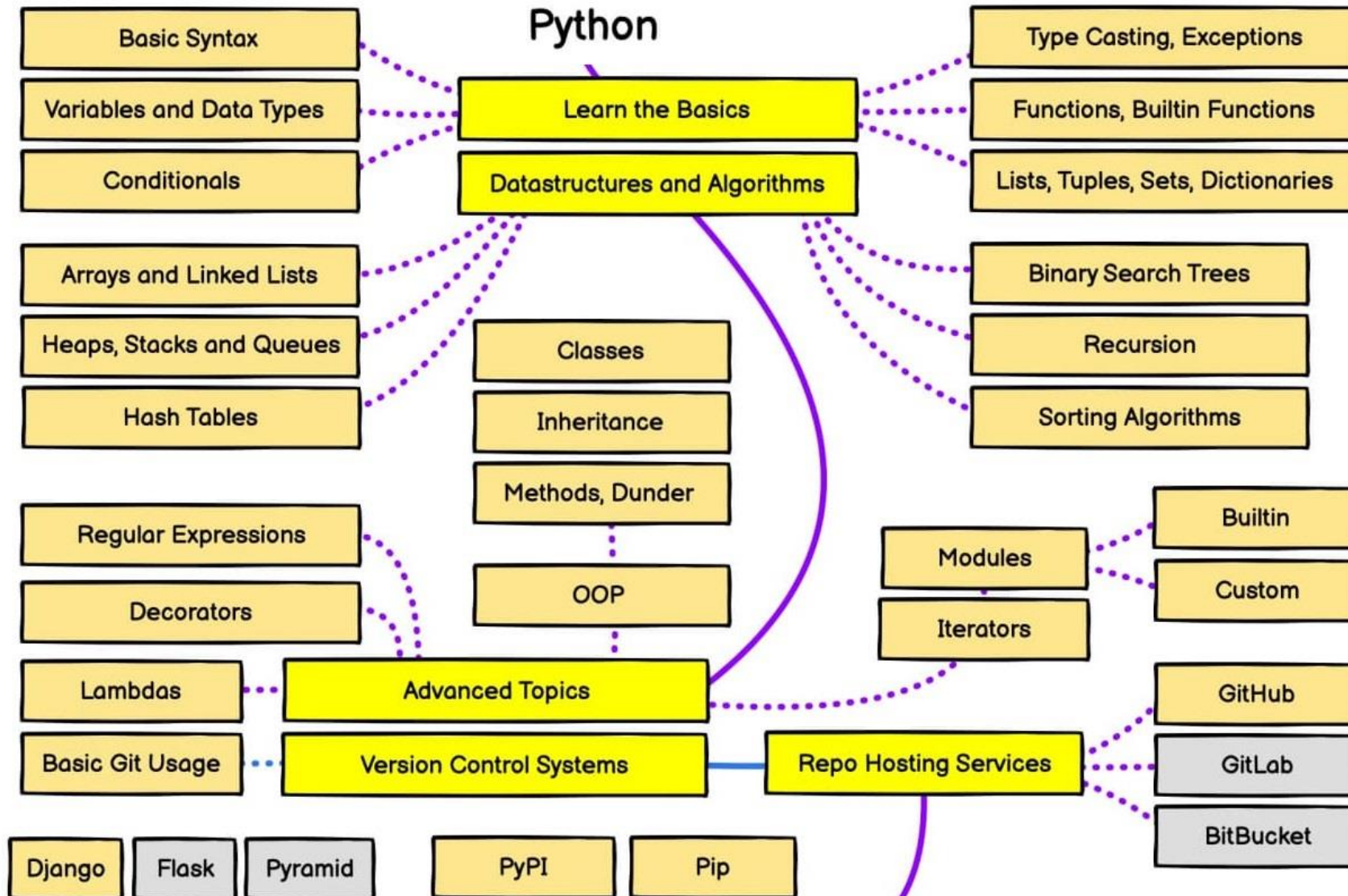
Python
Internship



Job Ready



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





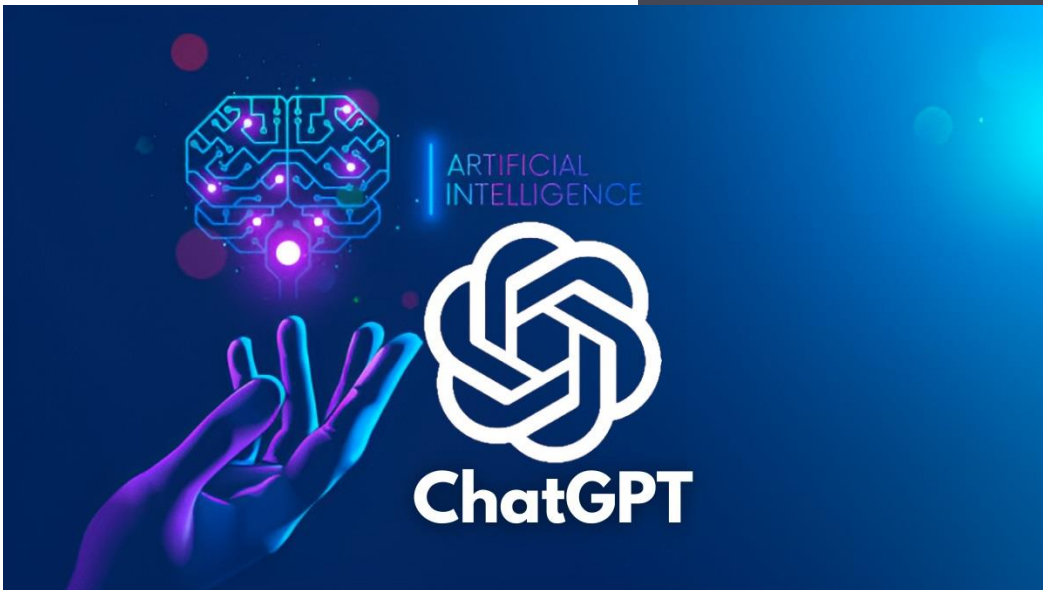
NASA



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_8GKIvzbXA?language=python3

<https://ideone.com/>

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

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

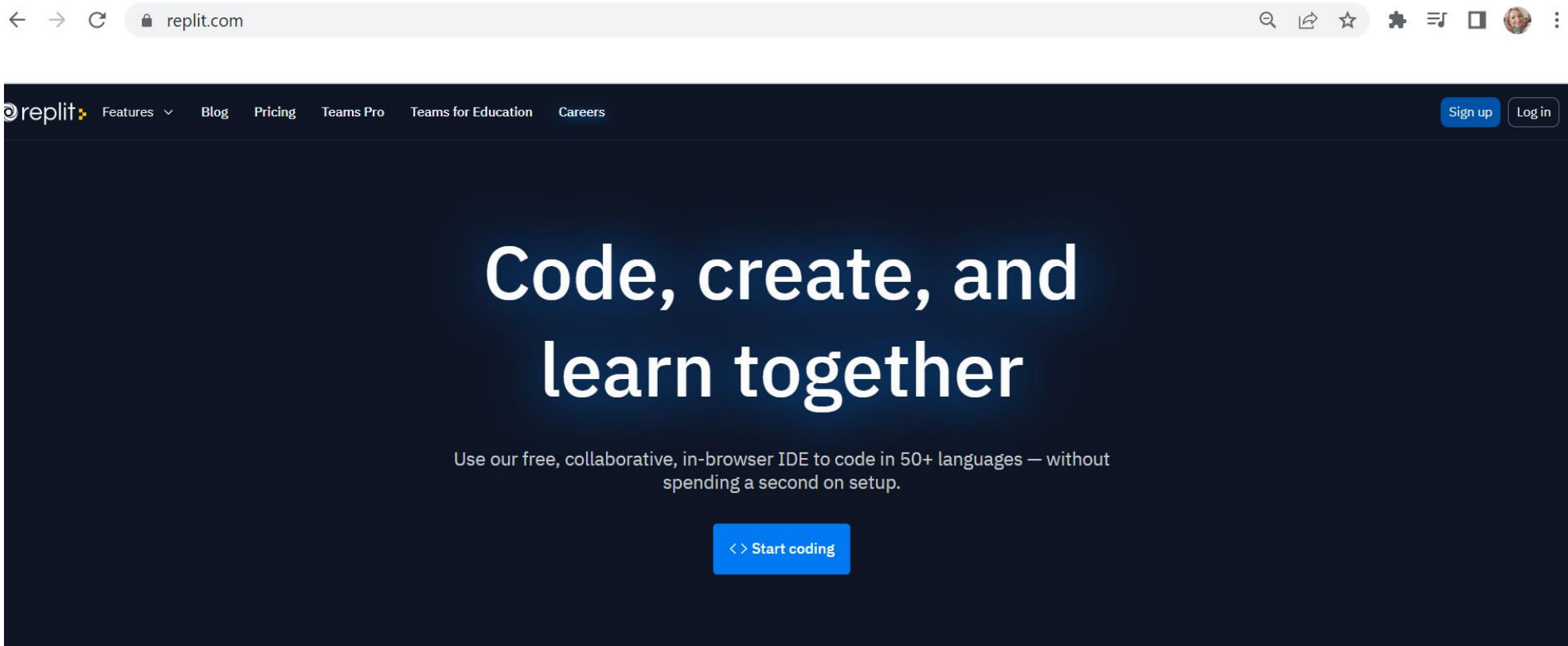
https://www.onlinegdb.com/online_python_compiler

<https://ideone.com/>

https://paiza.io/projects/sepDWD3s9TLX_8GKIvzbXA?language=python3

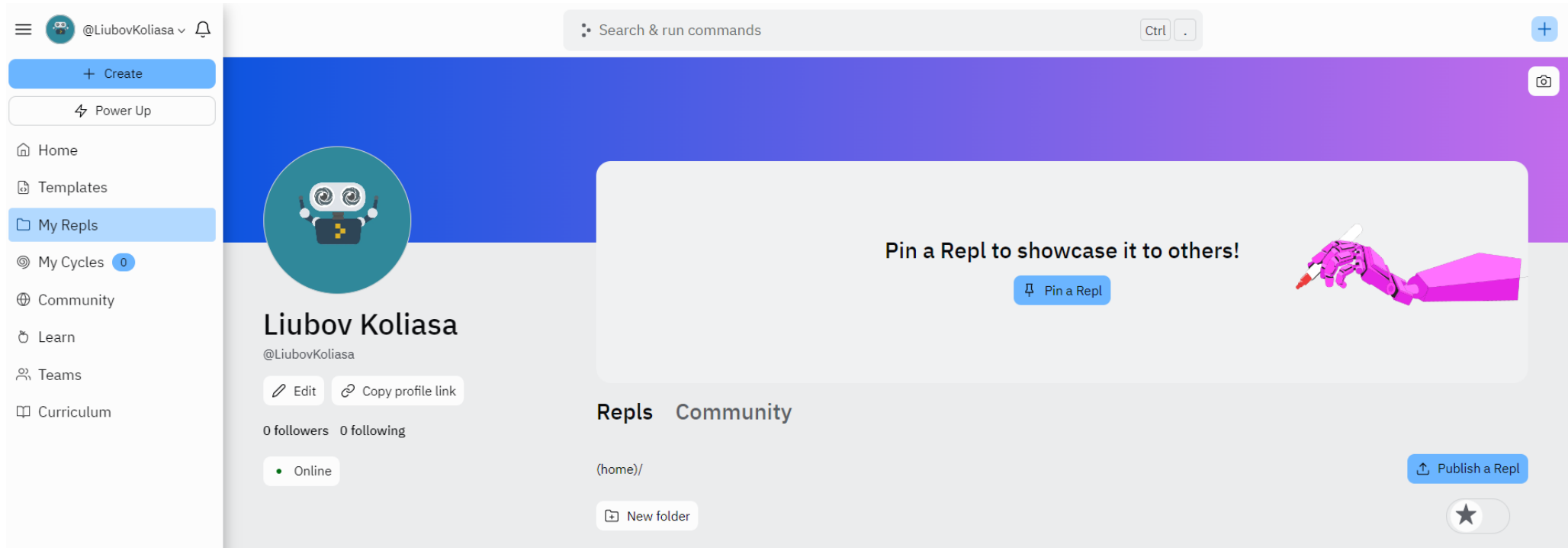
ONLINE PYTHON EDITOR – FOR EXAMPLE REPL.IT

<https://replit.com/>




SIGN UP & LOG IN

<https://replit.com/>



PYTHON REPL.IT

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Create a Repl Import from GitHub X


Template

Search Templates


Favorites


-  Python replit
-  Node.js replit
-  C replit

Templates

-  HTML, CSS, JS replit


Title

 Public
Anyone can view and fork this Repl.

 Power Up to make private

[+ Create Repl](#)

My Repls

[+ Create](#)  Test

[See all Repls](#)


Trending

2chat
bddy
Welcome to 2Chat Yet, another replit chat application. But, it has something...


Replit comments G'day bot
codingMASTER398
The @gdaybot user on Replit is an always-online little helper in the Replit...


Fronteditor
AdityaAnanya007
Welcome to Fronteditor! An Online Frontend IDE/Editor, which you can us...


Create a Repl Import from GitHub X

Template  Python




Title

 Public
Anyone can view and fork this Repl.

 Power Up to make private

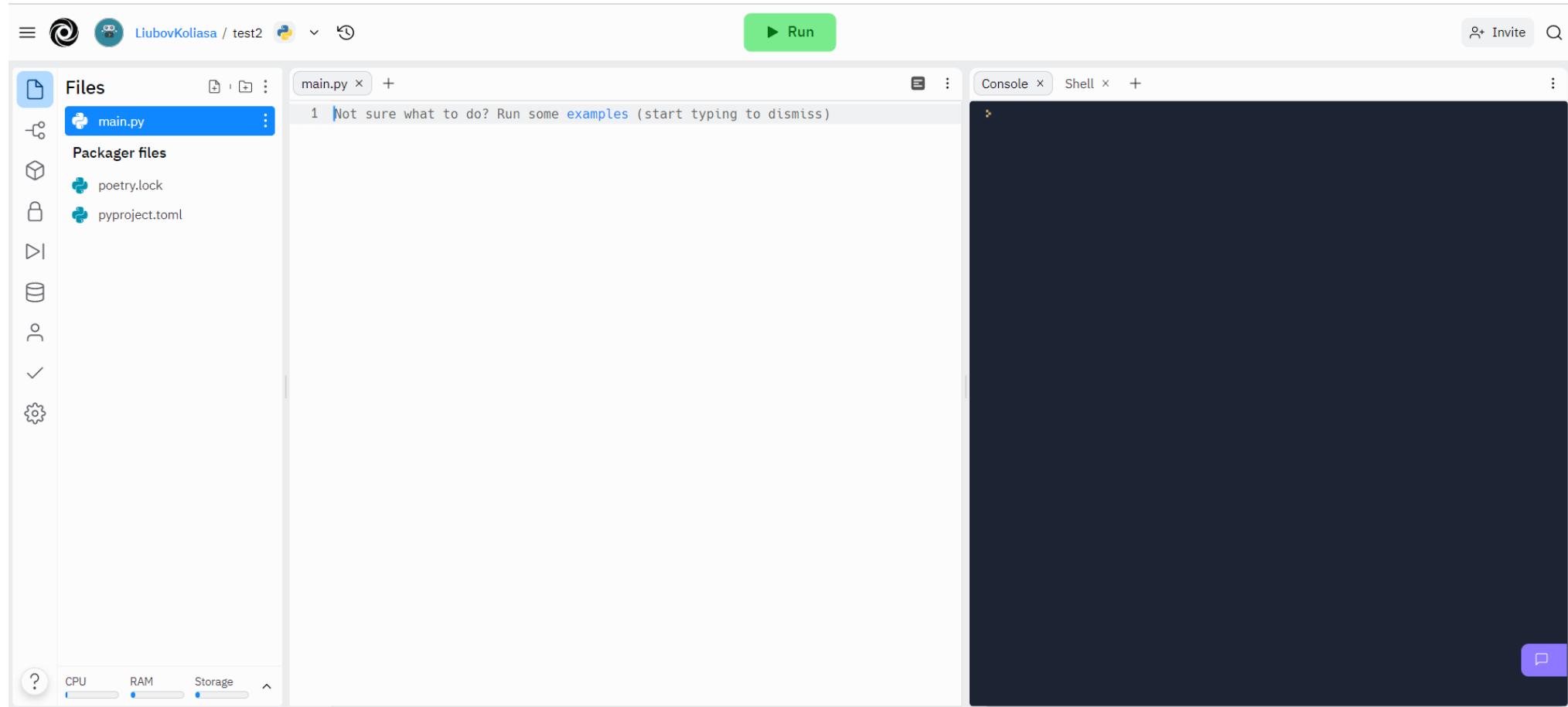
 Python ✓

Python is a high-level, interpreted, general-purpose programming language.

 replit  1.2K  8.9M

[+ Create Repl](#)

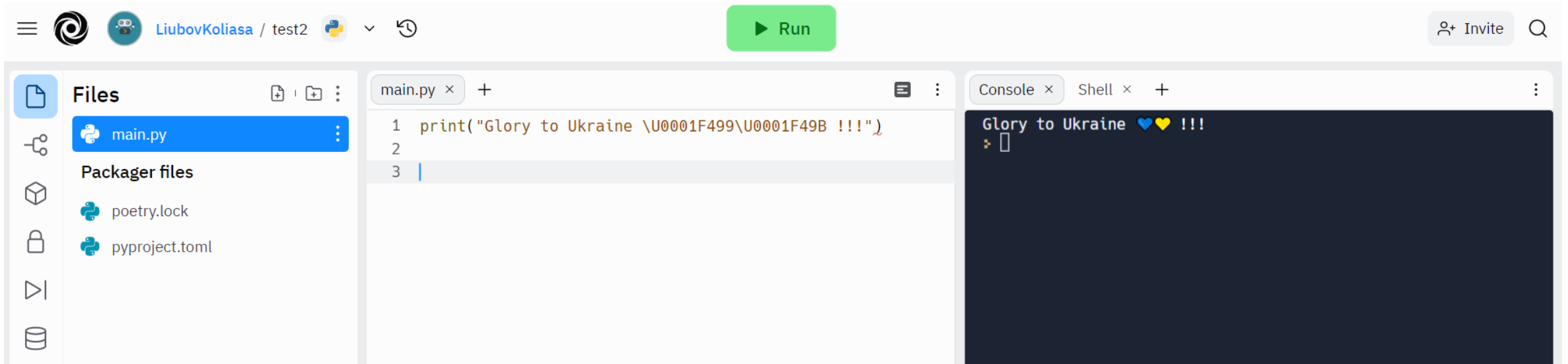
PYTHON REPL.IT



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



NUMBER GUESSING GAME IN PYTHON

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 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 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/>

Navigation

- Project description
- Release history
- Download files

Project links

- Homepage

Statistics

GitHub statistics:

- Stars: 418
- Forks: 76

Search projects

pyowm 2.10.0

pip install pyowm

Latest version

Last released: Dec 21, 2018

A Python wrapper around OpenWeatherMap web APIs

Navigation

- Project description
- Release history

Project description

PyOWM is a client Python wrapper library for OpenWeatherMap web APIs. It allows quick and easy consumption of OWM data from Python applications via a simple object model and in a human-friendly fashion.



PYOWM DOCUMENTATION

The screenshot shows the GitHub repository page for `csparpa / pyowm`. The repository has 34 watches, 418 stars, and 76 forks. It includes tabs for Code, Issues (11), Pull requests (0), Projects (1), Wiki, and Insights. The description states it is a Python wrapper around the OpenWeatherMap web API, with a link to <https://pyowm.readthedocs.io>. Below the description are tags for `pyowm`, `python`, `python-wrapper`, `api`, `openweathermap`, `openweathermap-api`, `api-client`, and `forhumans`. A statistics bar shows 631 commits, 5 branches, 20 releases, 9 contributors, and the MIT license. Action buttons include 'New pull request', 'Create new file', 'Upload files', 'Find file', and 'Clone or download'. A recent commit by `csparpa` is mentioned, with the latest commit `cdd59eb` on Jan 4. A table lists recent releases and updates.

File	Release	Time
<code>deploy</code>	Release 2.10 (#277)	2 months ago
<code>dockerfiles</code>	Patch Deadsnakes PPA as pointed out in #231	a year ago
<code>logos</code>	Logos license and updated copyright year	7 months ago
<code>pyowm</code>	Release 2.10 (#277)	2 months ago
<code>scripts</code>	Release 2.10 (#277)	2 months ago

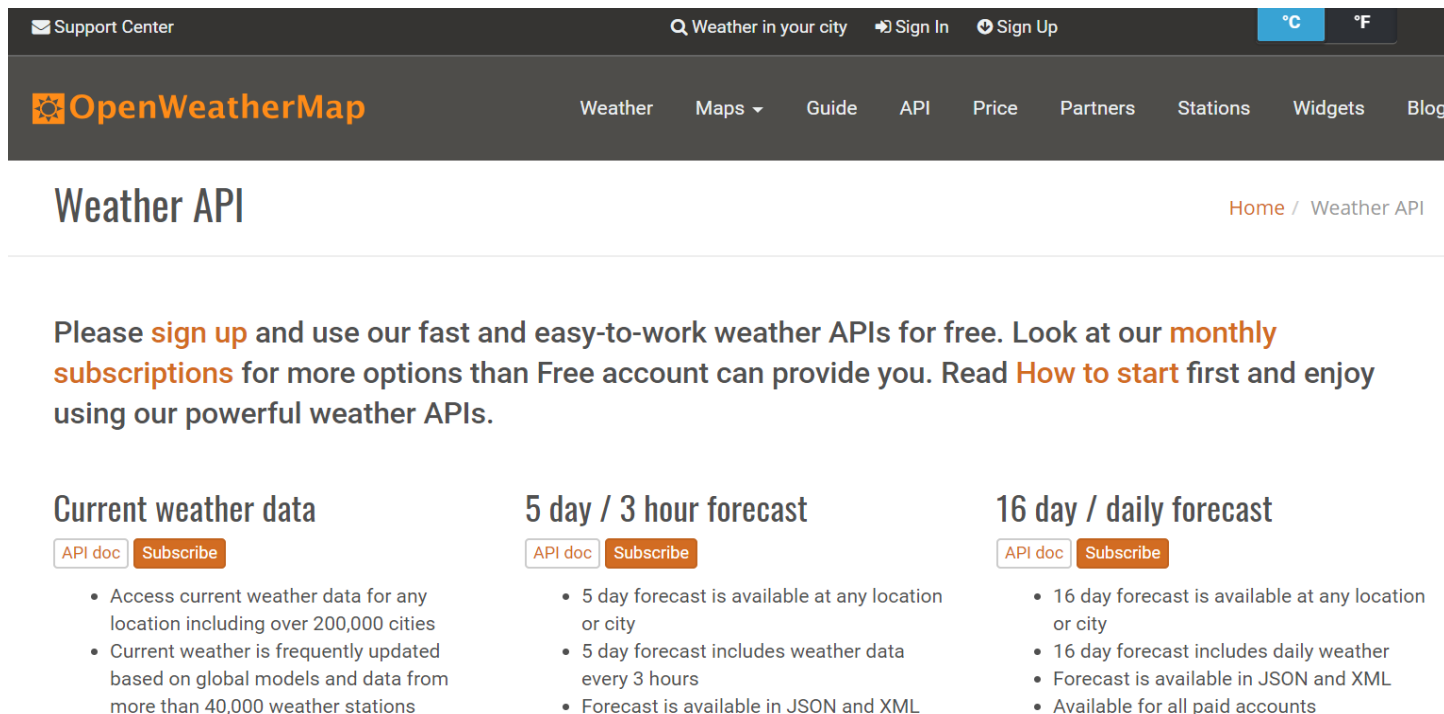
PYOWM API KEY

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>



The screenshot shows the OpenWeatherMap website interface. At the top, there's a navigation bar with links for Support Center, Weather in your city, Sign In, and Sign Up. Below this is the OpenWeatherMap logo and a menu with links for Weather, Maps, Guide, API, Price, Partners, Stations, Widgets, and Blog. The main heading is "Weather API". A sub-header indicates the current page is "Home / Weather API". The main text encourages users to sign up for free APIs, mentioning monthly subscriptions for more options. Below this, three sections are listed: "Current weather data", "5 day / 3 hour forecast", and "16 day / daily forecast". Each section has a link to the "API doc" and a "Subscribe" button. The "Current weather data" section lists features like access to over 200,000 cities and frequent updates. The "5 day / 3 hour forecast" section lists features like availability at any location and hourly updates. The "16 day / daily forecast" section lists features like availability at any location and daily updates.

Support Center Weather in your city Sign In Sign Up °C °F

OpenWeatherMap Weather Maps Guide API Price Partners Stations Widgets Blog

Weather API

Home / Weather API

Please **sign up** and use our fast and easy-to-work weather APIs for free. Look at our **monthly subscriptions** for more options than Free account can provide you. Read **How to start** first and enjoy using our powerful weather APIs.

Current weather data

[API doc](#) [Subscribe](#)

- Access current weather data for any location including over 200,000 cities
- Current weather is frequently updated based on global models and data from more than 40,000 weather stations

5 day / 3 hour forecast

[API doc](#) [Subscribe](#)

- 5 day forecast is available at any location or city
- 5 day forecast includes weather data every 3 hours
- Forecast is available in JSON and XML

16 day / daily forecast

[API doc](#) [Subscribe](#)

- 16 day forecast is available at any location or city
- 16 day forecast includes daily weather
- Forecast is available in JSON and XML
- Available for all paid accounts

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>

