



# YOUR FIRST CODE: PYTHON PRACTICAL WORKSHOP



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SoftServe Academy Mentor

softserve | academy

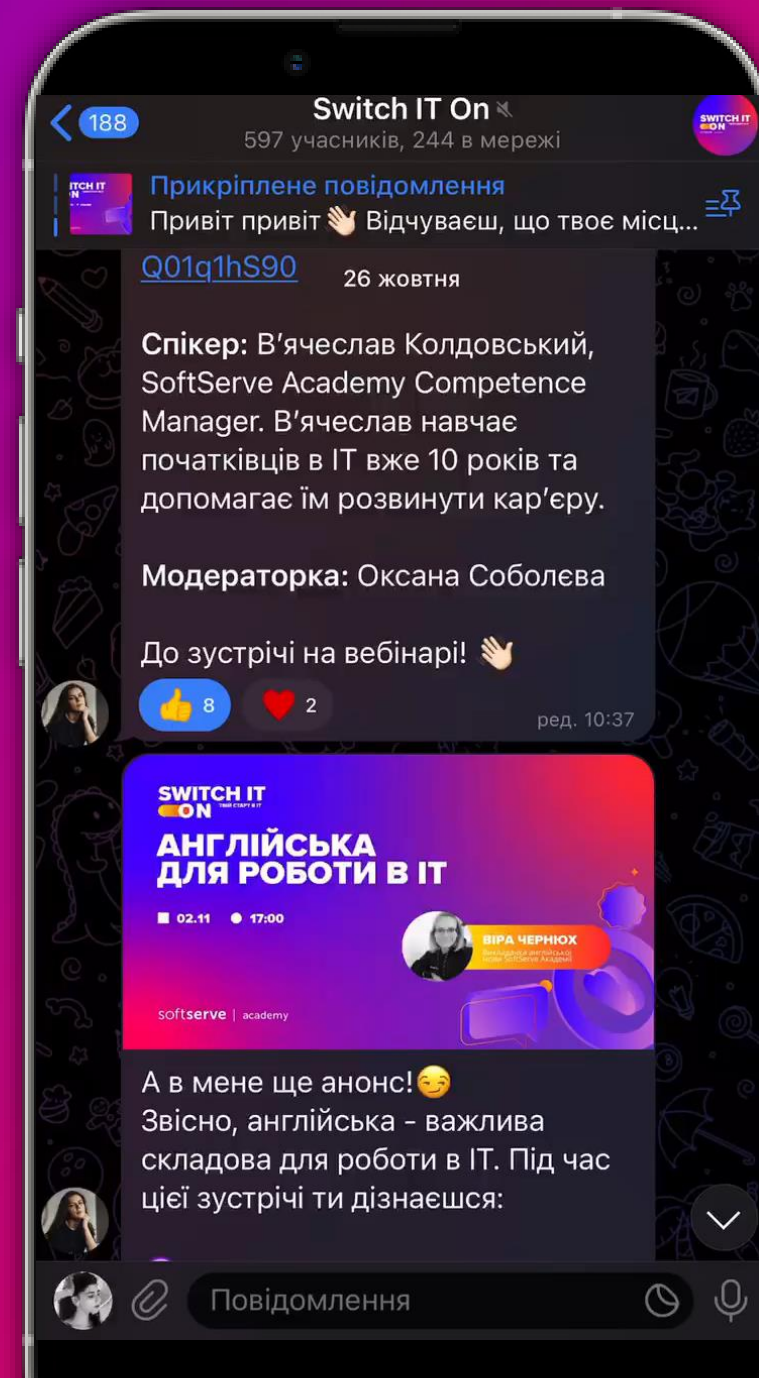
# ABOUT MYSELF

- I have worked at SoftServe for 4 years
- Academy Mentor at SoftServe
- Academy Lead of Python Direction
- Technologies: Python,  
Web UI: HTML/CSS/JS,  
QC

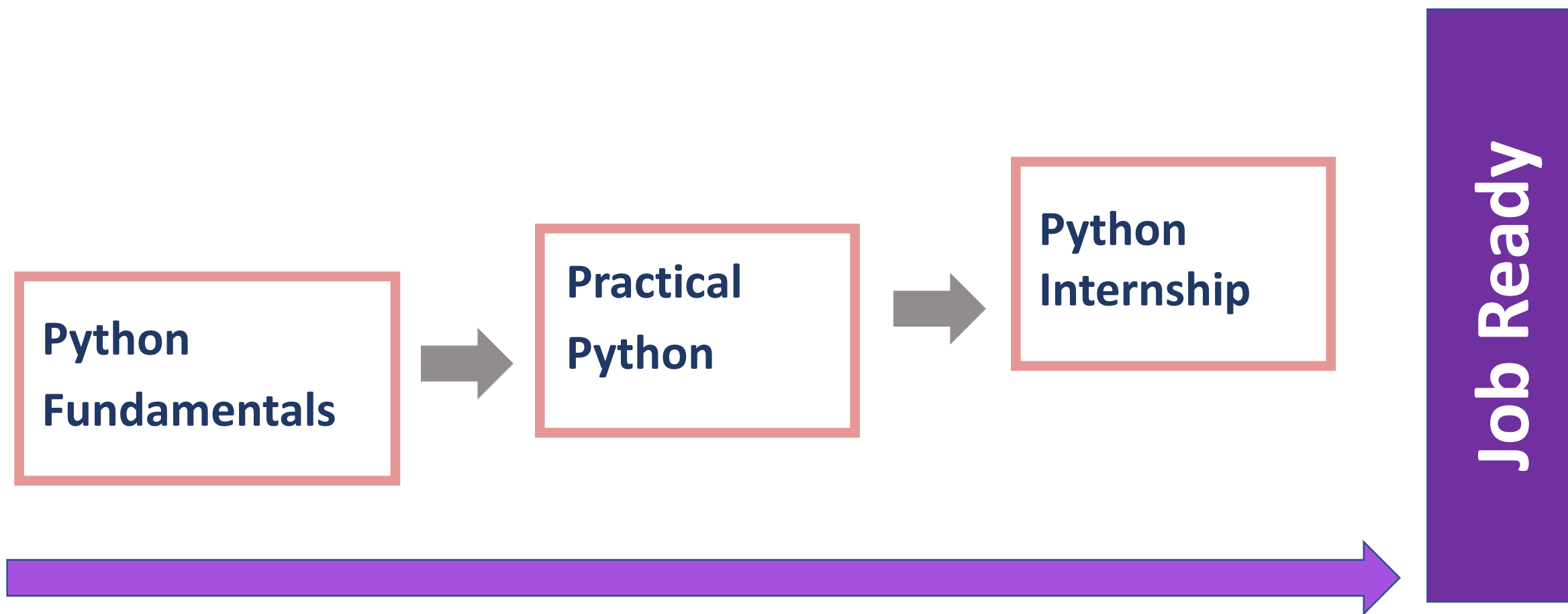
# JOIN OUR TELEGRAM CHAT



softserve | academy

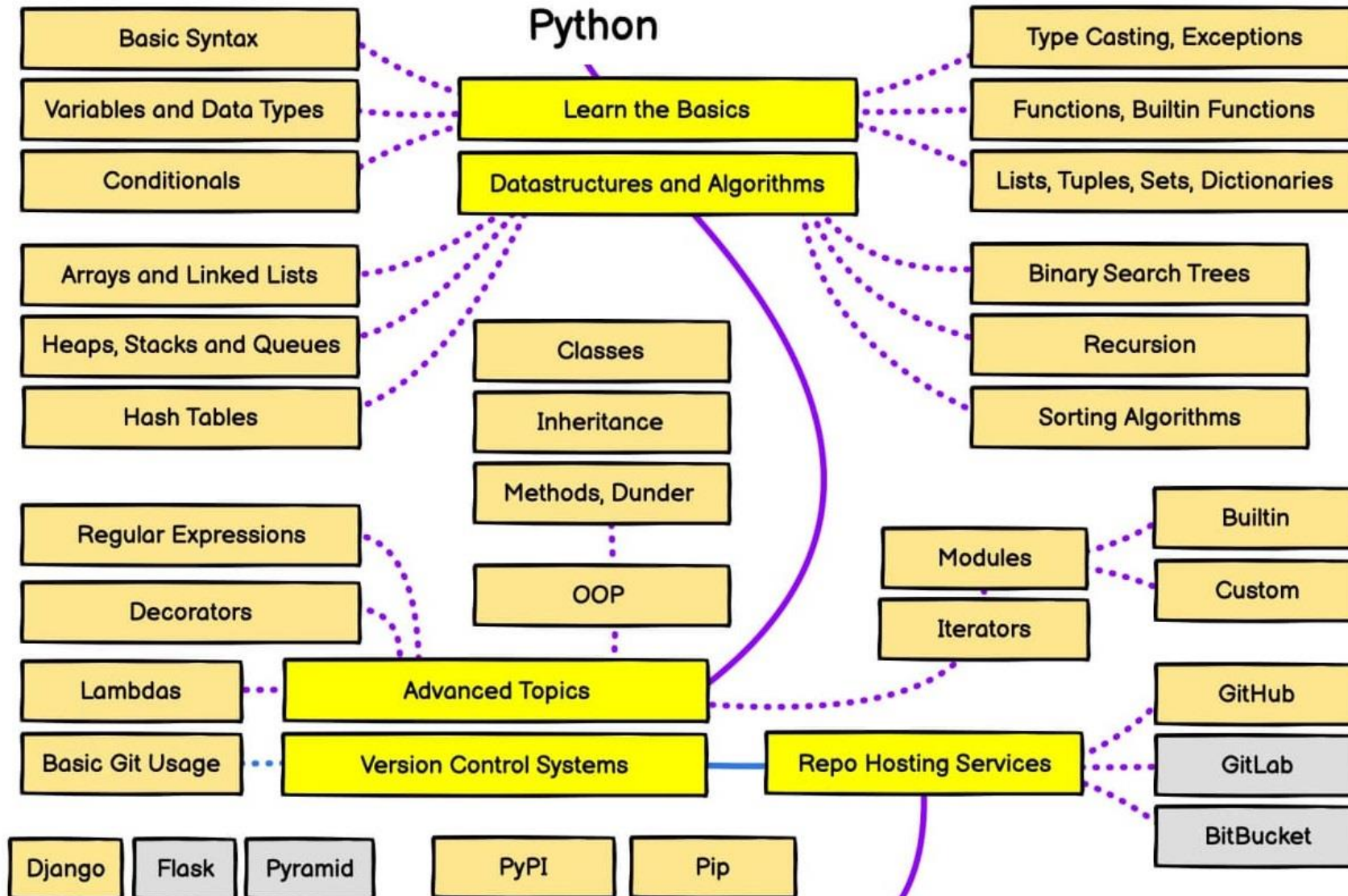


# PYTHON: ROAD MAP





# 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

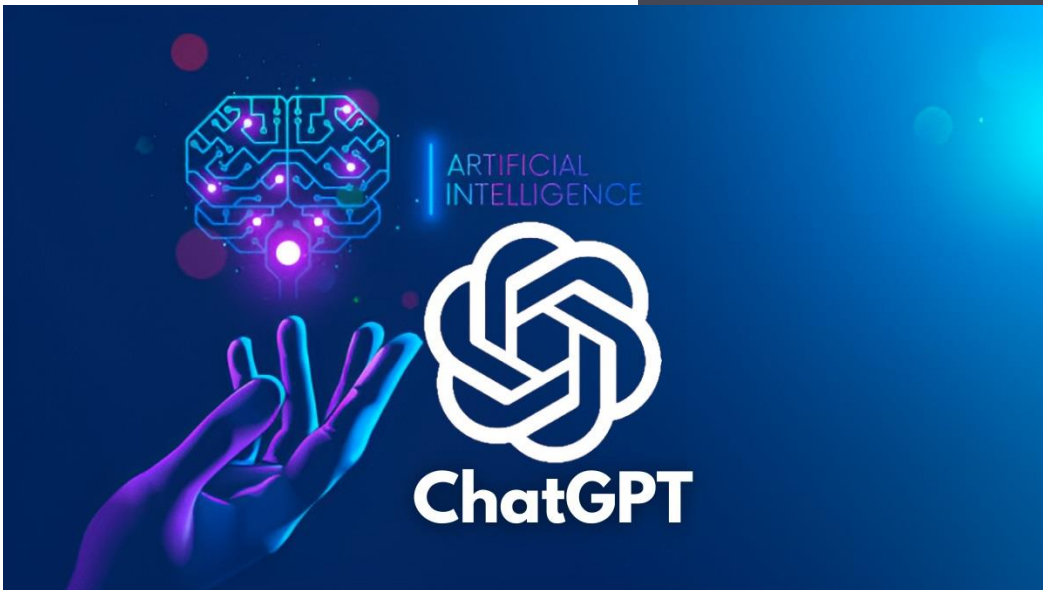




# PYTHON OVERVIEW



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\\_8GKIvzbXA?language=python3](https://paiza.io/projects/sepDWD3s9TLX_8GKIvzbXA?language=python3)

<https://ideone.com/>

[https://www.tutorialspoint.com/execute\\_python\\_online.php](https://www.tutorialspoint.com/execute_python_online.php)

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

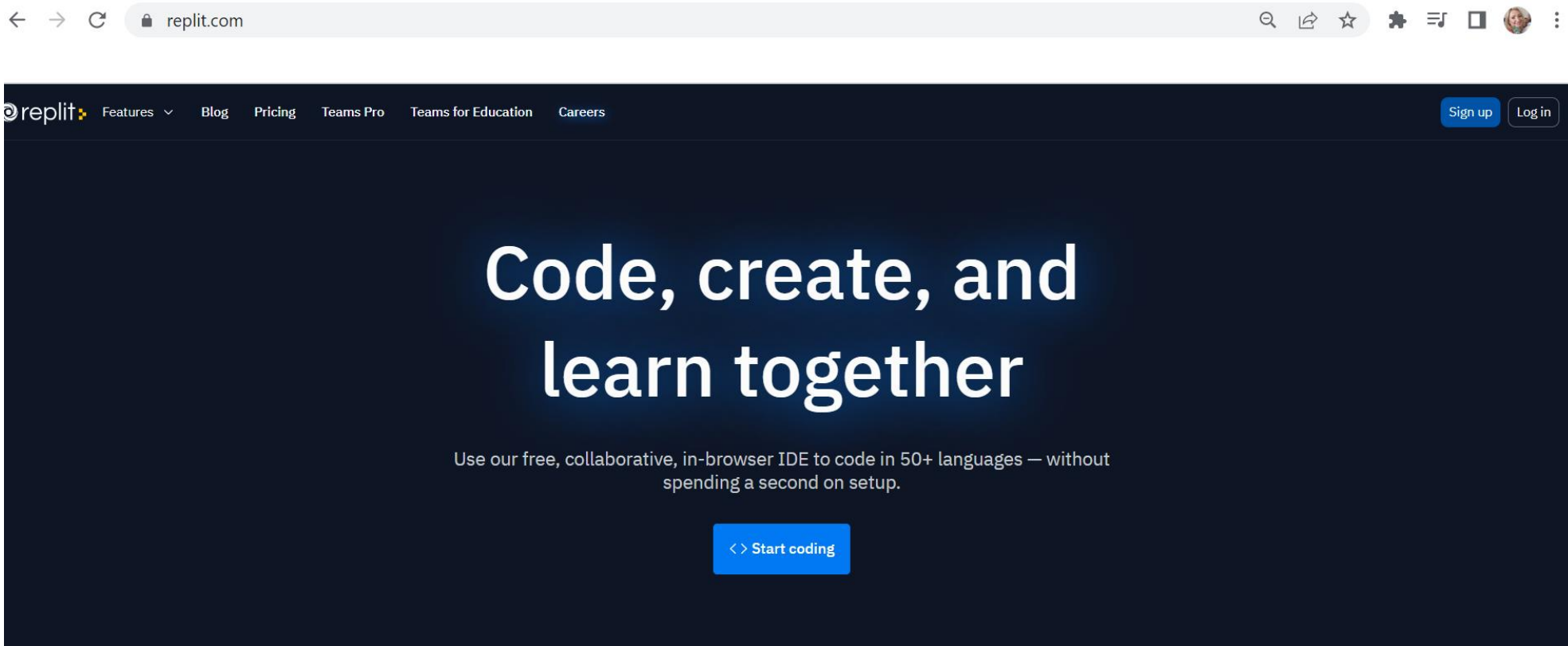
[https://www.onlinegdb.com/online\\_python\\_compiler](https://www.onlinegdb.com/online_python_compiler)

<https://ideone.com/>

[https://paiza.io/projects/sepDWD3s9TLX\\_8GKIvzbXA?language=python3](https://paiza.io/projects/sepDWD3s9TLX_8GKIvzbXA?language=python3)

# ONLINE PYTHON EDITOR – FOR EXAMPLE REPL.IT

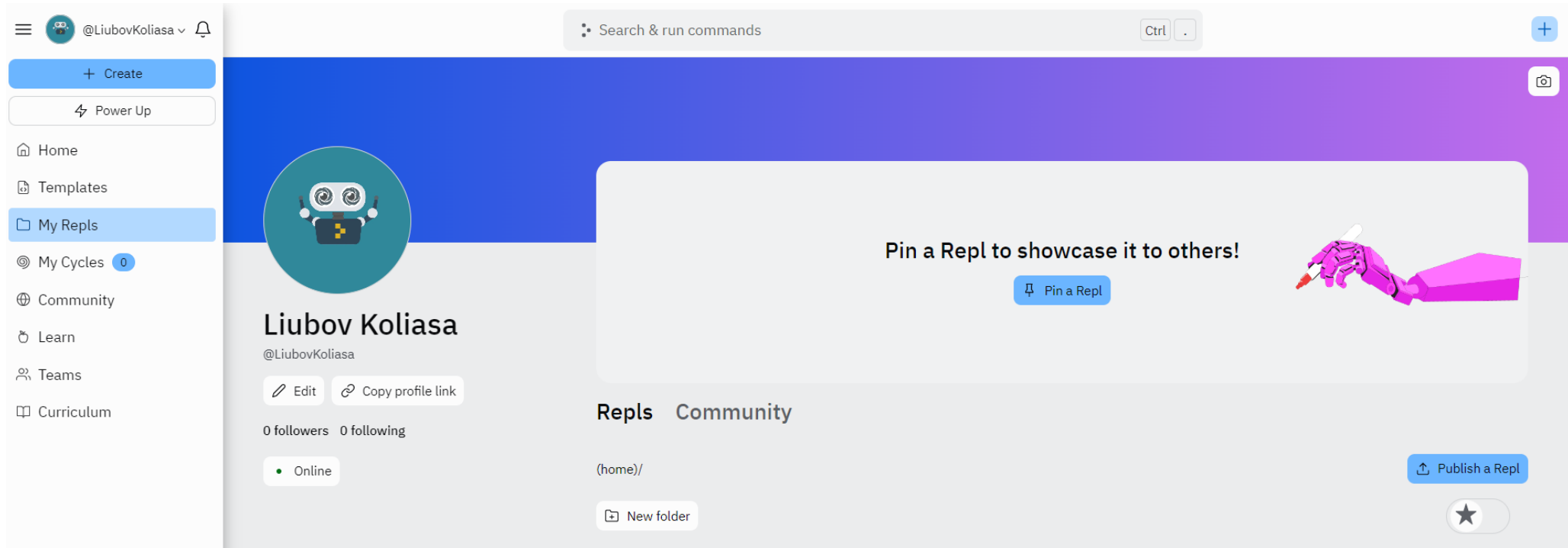
<https://replit.com/>






# SIGN UP & LOG IN

<https://replit.com/>



# PYTHON REPL.IT

Learn Javascript in 4 Days 0/4  X


Complete all 4 tutorials to earn free access to Replit's 100 days of code course!

**JavaScript 101**  
Day 1

**Intro to Arrays**  
Day 4

6 days ago

**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

Search Templates Q

**Favorites**


-  Python replit
-  Node.js replit
-  C replit


**Templates**

-  HTML, CSS, JS replit

**Title**

Name your Repl

 Public  
Anyone can view and fork this Repl.


 Power Up to make private

+ Create Repl


### Create a Repl

Import from GitHub X


Template

 Python

**Languages**

 Python ✓


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


 replit 1.2K + 8.9M

+ Create Repl

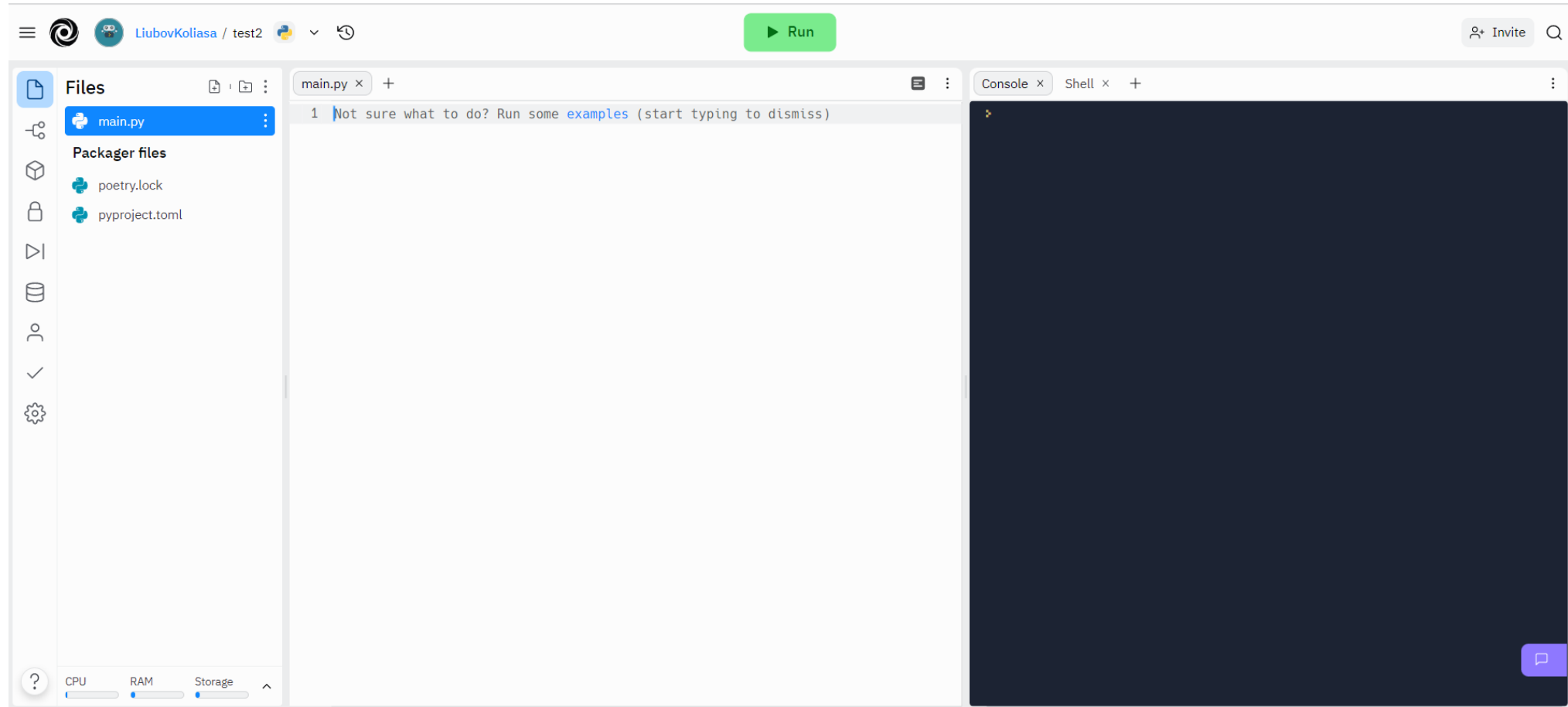
**Title**

WorrisomeVictoriousEquation

 Public  
Anyone can view and fork this Repl.

 Power Up to make private

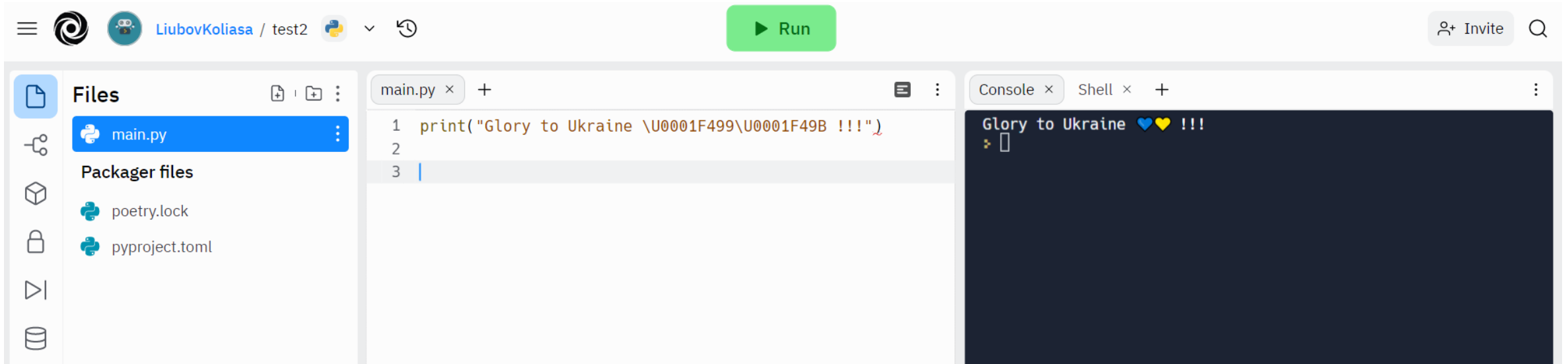
# PYTHON REPL.IT



# 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 watchers, 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/Folder	Description	Time Ago
<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

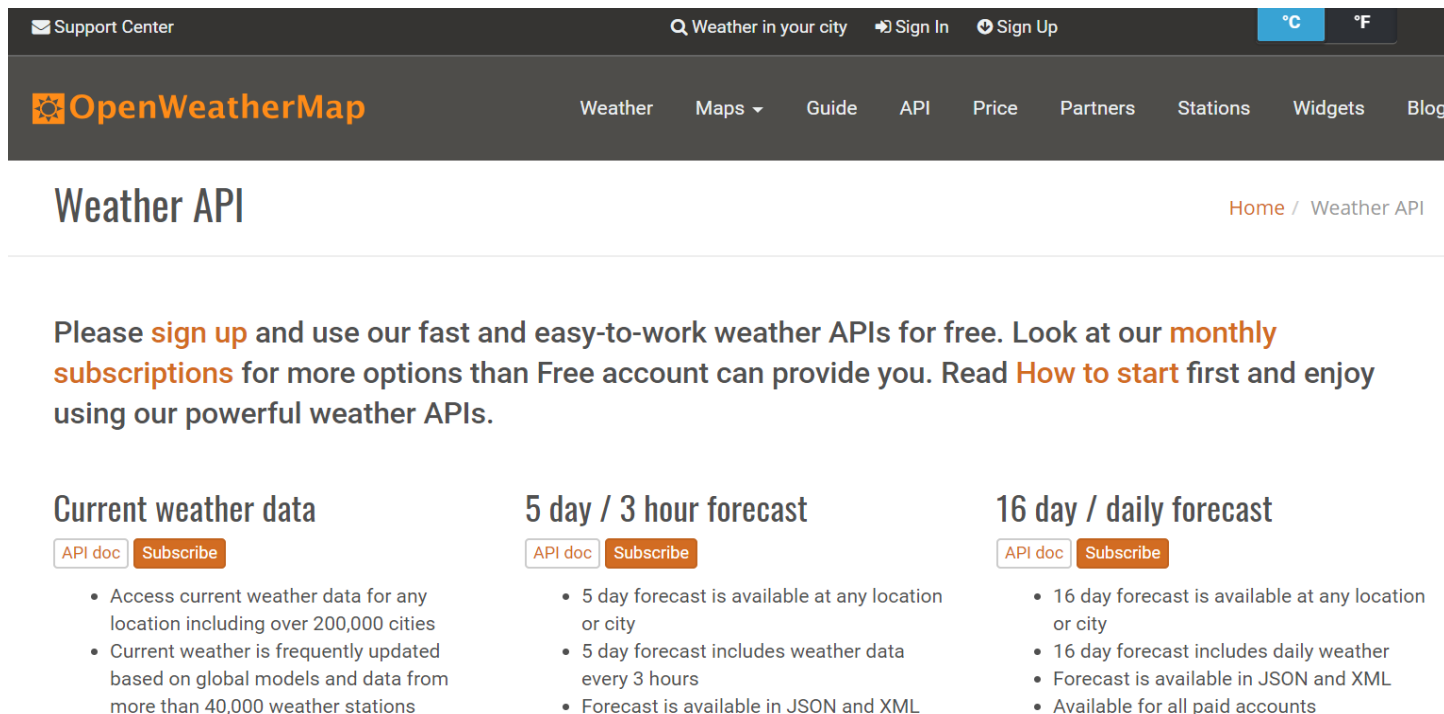
# PYOWM API KEY

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's 'Weather API' page. The header includes a 'Support Center' link, a search bar for 'Weather in your city', and 'Sign In' and 'Sign Up' buttons. The main navigation bar lists 'Weather', 'Maps', 'Guide', 'API', 'Price', 'Partners', 'Stations', 'Widgets', and 'Blog'. The 'Weather API' section is highlighted, with a breadcrumb trail 'Home / Weather API'. The main text encourages users to sign up for free APIs, mentioning 'monthly subscriptions' and a 'How to start' guide. Below this, three service cards are displayed: 'Current weather data', '5 day / 3 hour forecast', and '16 day / daily forecast'. Each card has an 'API doc' link and a 'Subscribe' button, followed by a list of features.

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>



