



PYTHON INTRODUCTION

by Liubov Koliasa

softserve | academy



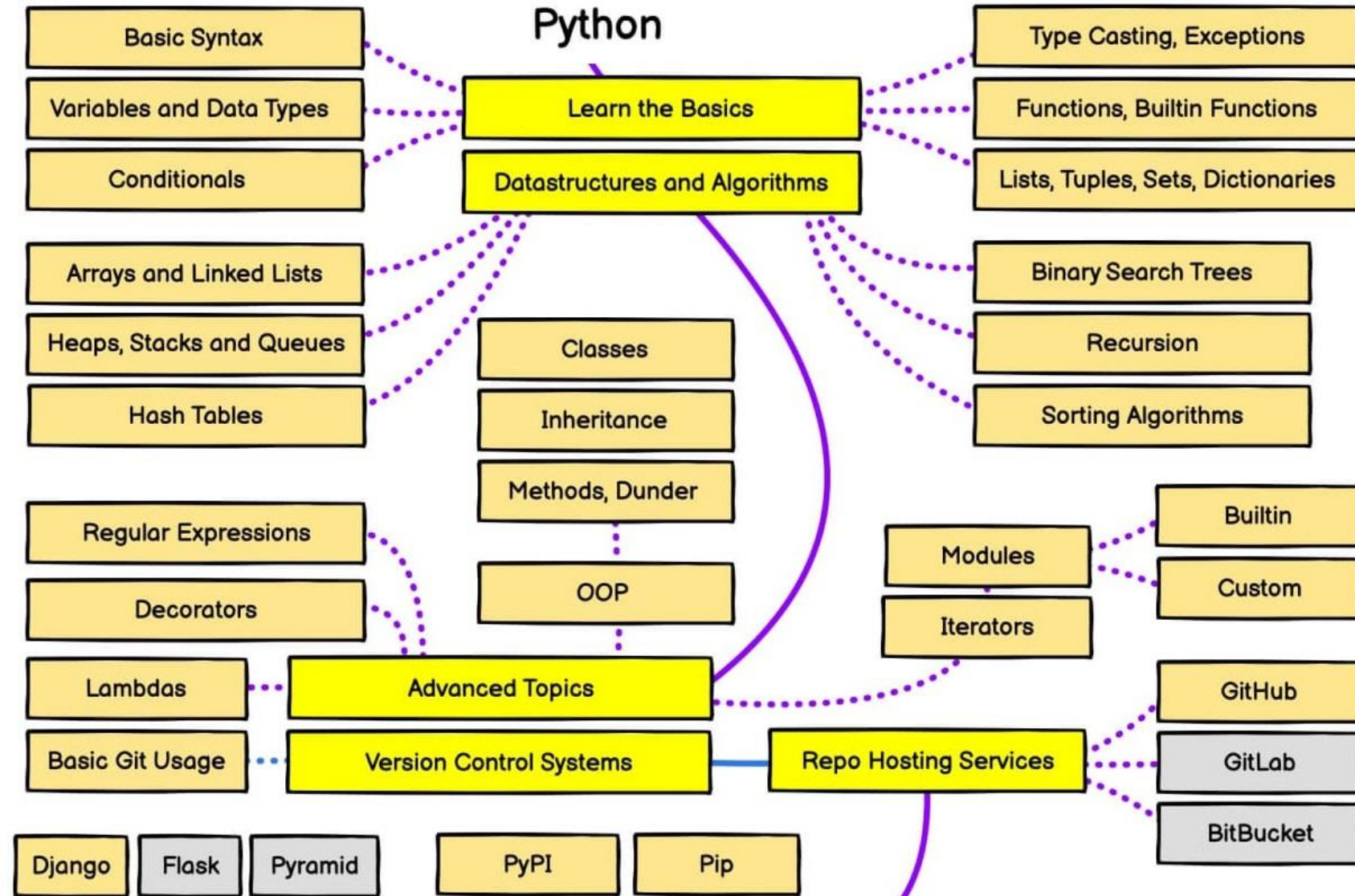
For communication Join to Telegram



<https://t.me/+gl9yJdesQxljZWYy>



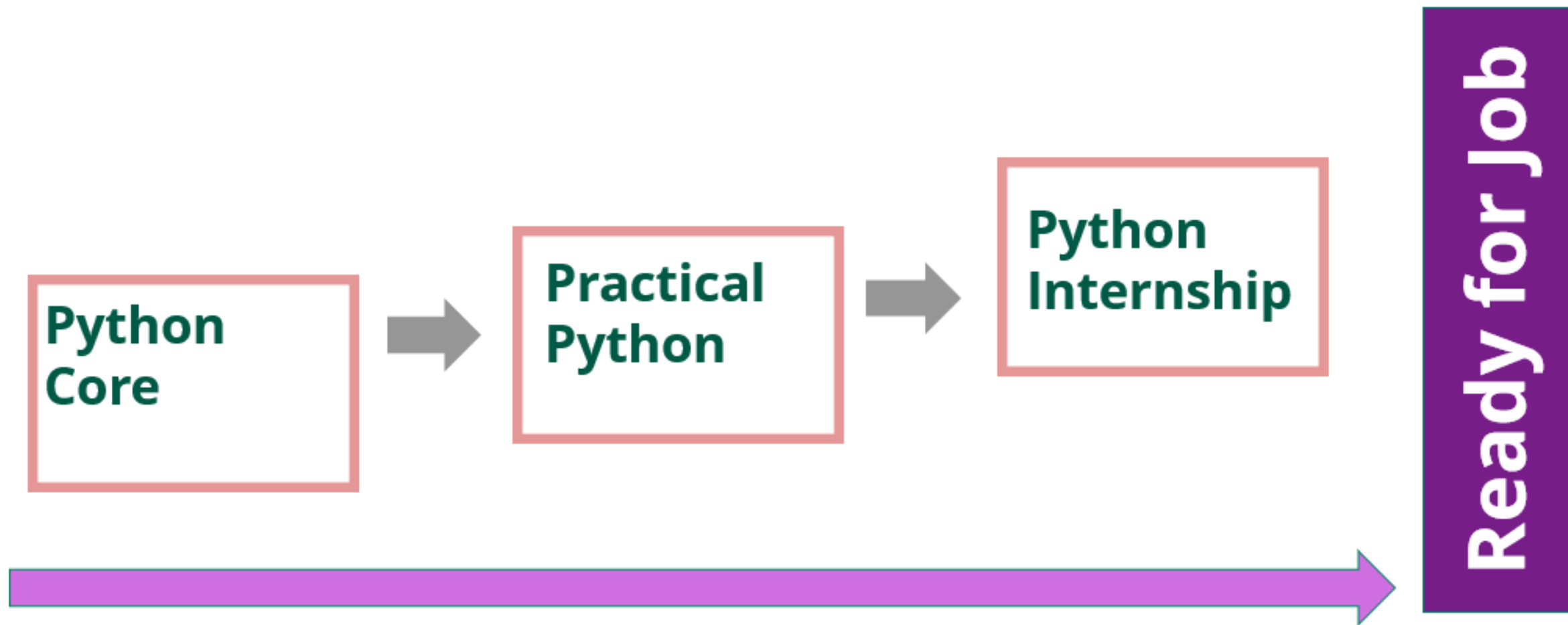
What will you get by learning Python Core?



Additionally:

- **SQL Basics, Html, JS** – e-learning
- **ITA English Speaking Club** and checking the **level of English**
- Final **technical test**
- Access to **online courses**
- **Event invitations** from **IT Academy**

Python: Full Program



Python features

➤ **Python** is a programming language:

Easy to learn



simple syntax



easy to setup; standard library is large

other languages:

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



Python:

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

Python

- **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 history

Python created by Guido van Rossum and 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

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>

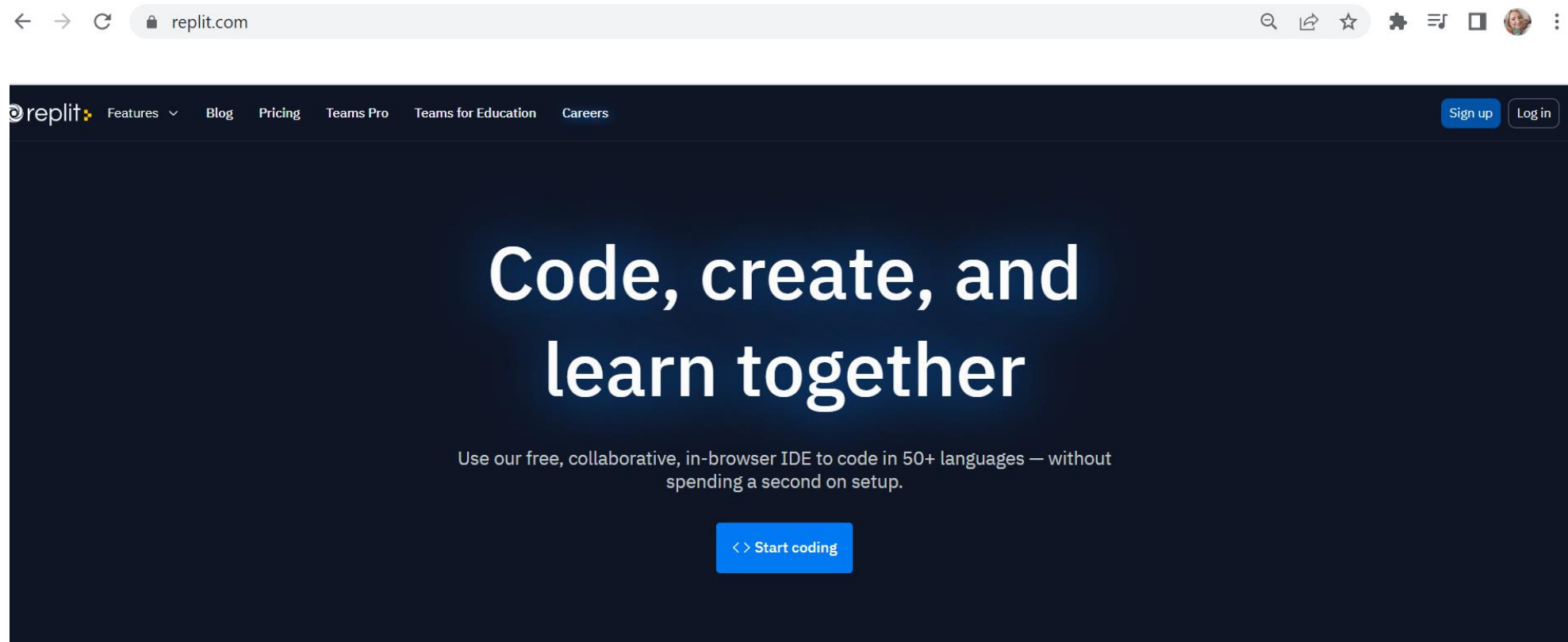
https://www.onlinegdb.com/online_python_compiler

<https://ideone.com/>

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

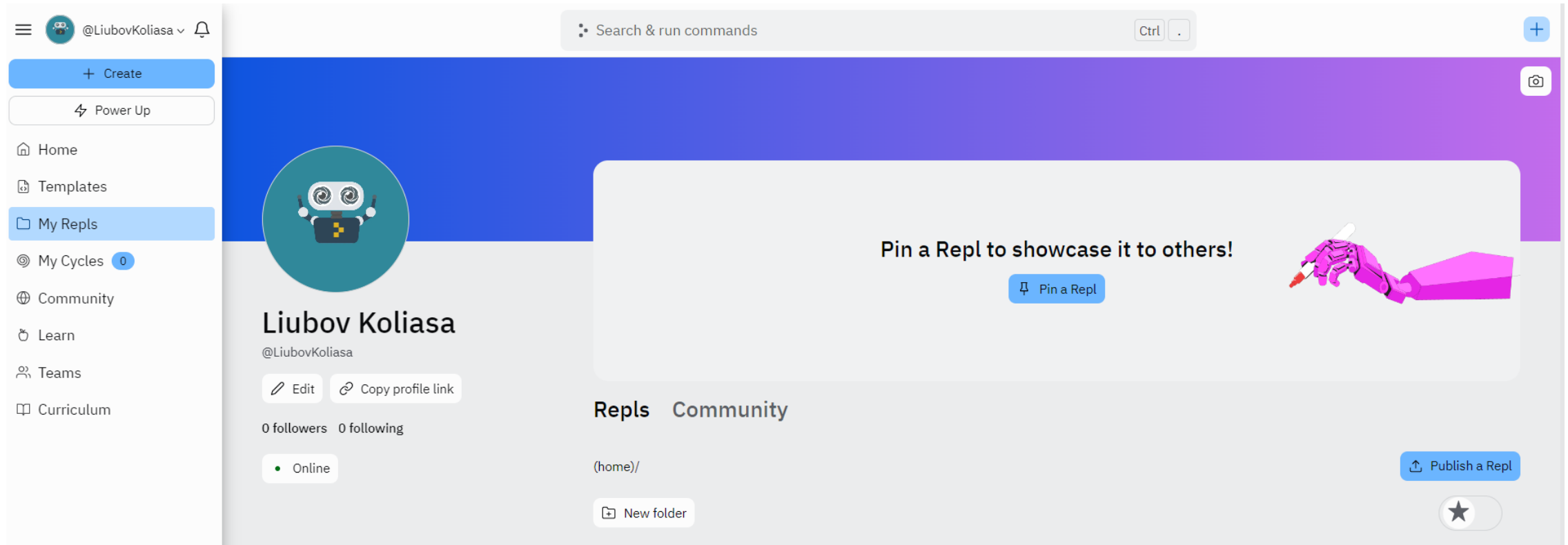
Online Python Editor – for example repl.it

<https://replit.com/>



Sign up & Log in

<https://replit.com/>



Python repl.it

The image shows a screenshot of the Replit website with a 'Create a Repl' modal open. The background interface includes a header with 'Learn Javascript in 4 Days' (0/4 completed), a 'My Repls' section with '+ Create', 'Test', and 'See all Repls' buttons, and a 'Trending' section with items like '2chat' and 'Fronteditor'.

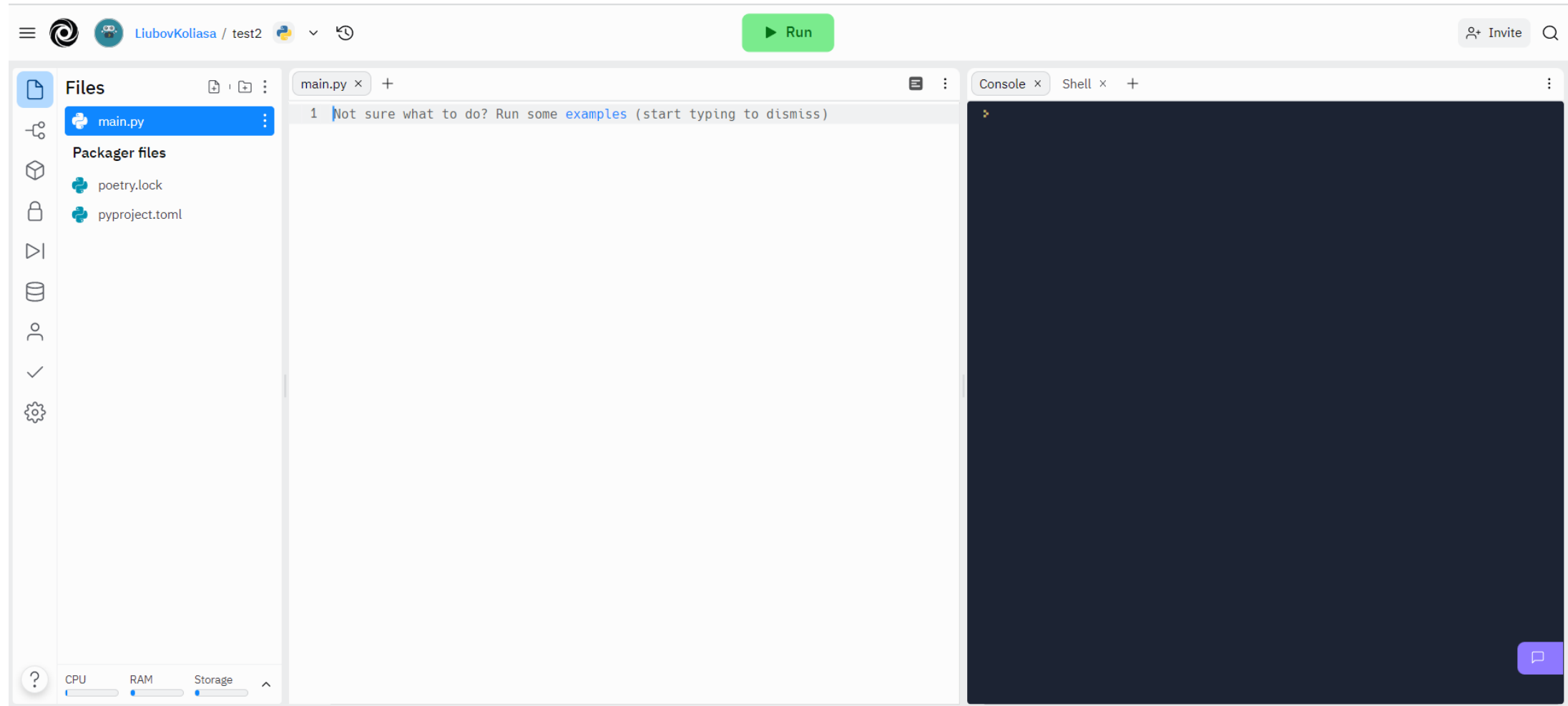
Create a Repl Modal (Left):

- Template:** Search Templates (input field with magnifying glass icon)
- Favorites:**
 - Python replit
 - Node.js replit
 - C replit
- Templates:**
 - HTML, CSS, JS replit
- Title:** Name your Repl (input field)
- Public:** ☒ Public. Anyone can view and fork this Repl. [Power Up to make private](#)
- + Create Repl** (button)

Create a Repl Modal (Right):

- Template:** Python (dropdown menu)
- Title:** WorrisomeVictoriousEquation (input field)
- Public:** ☒ Public. Anyone can view and fork this Repl. [Power Up to make private](#)
- Python** (language icon) ☒ Languages
- Python** is a high-level, interpreted, general-purpose programming language.
- replit** (logo) 1.2K + 8.9M
- + Create Repl** (button)

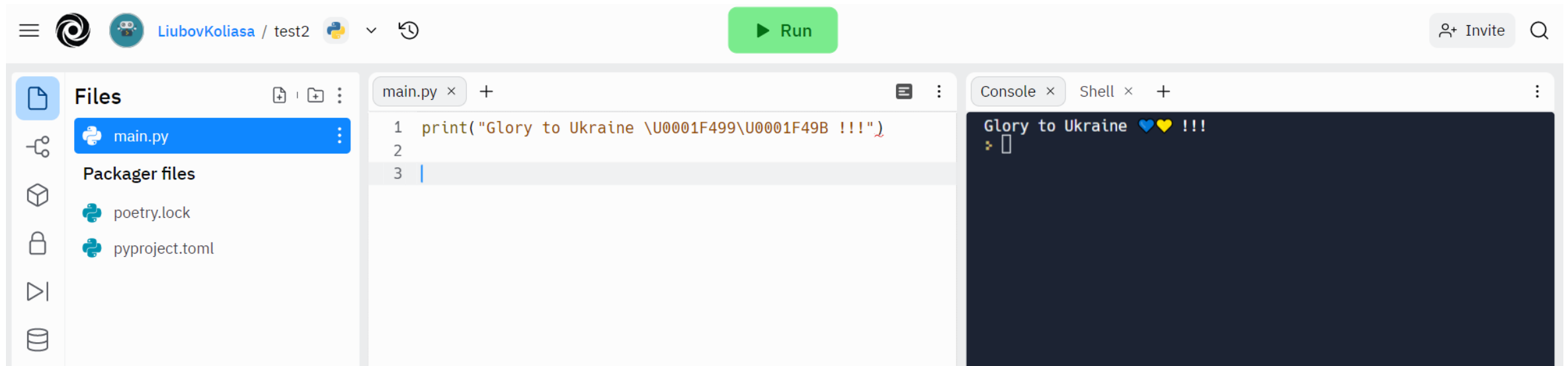
Python repl.it



Python. Your First Program



Python. Your First Program



The screenshot shows a web-based Python IDE interface. At the top, there's a header with a menu icon, a user profile 'LiubovKoliasa', a project name 'test2', a Python logo, a dropdown arrow, a refresh icon, a green 'Run' button, an 'Invite' button, and a search icon. The main area is divided into three panels. The left panel, titled 'Files', shows a file explorer with 'main.py' selected under 'Packager files', along with 'poetry.lock' and 'pyproject.toml'. The middle panel shows the code in 'main.py':

```
1 print("Glory to Ukraine \U0001F499\U0001F49B !!!")
2
3
```

The right panel, titled 'Console', shows the output of the program: 'Glory to Ukraine' followed by two heart emojis and three exclamation marks. The 'Shell' panel is empty.

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>



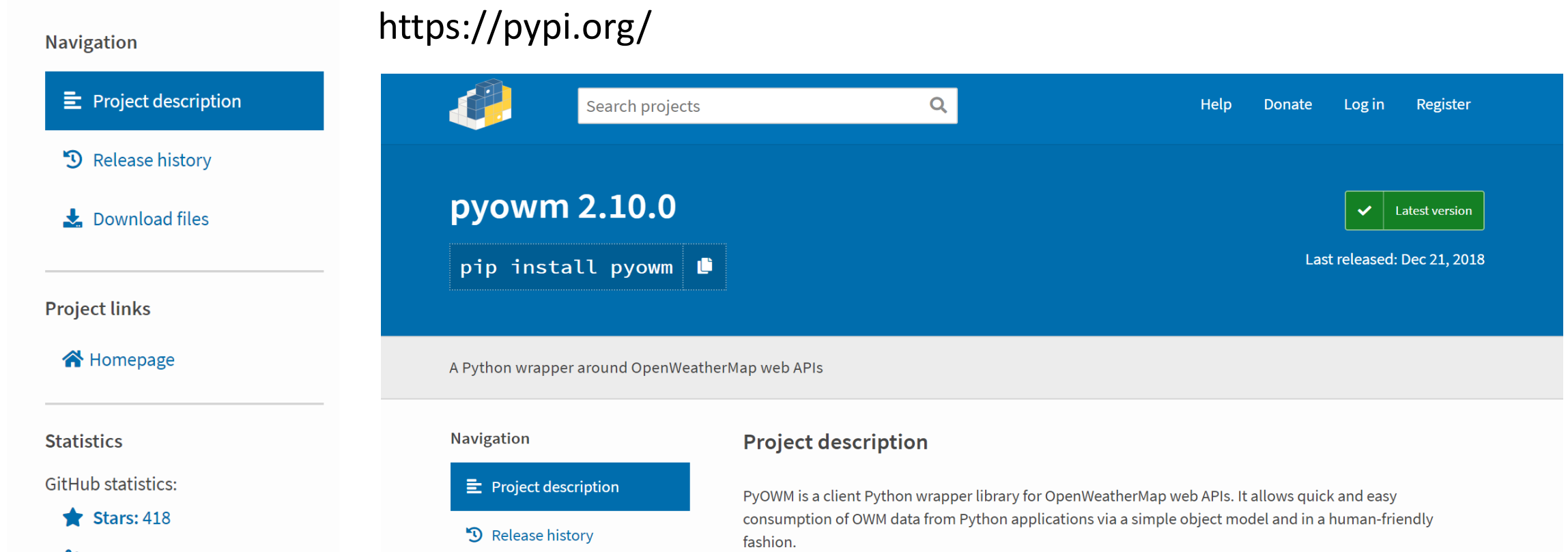
PyOWM is a client Python wrapper library for OpenWeatherMap (OWM) web APIs.
<https://pypi.org/project/pyowm/>



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/>






The screenshot displays the PyOWM project page on the Python Package Index (PyPI). The page is divided into several sections:

- Navigation:** Includes links for "Project description", "Release history", and "Download files".
- Project links:** Includes a link for the "Homepage".
- Statistics:** Shows GitHub statistics, including "Stars: 418".
- Project description:** Features the project name "pyowm 2.10.0", a search bar, and a button to "pip install pyowm". It also indicates the "Latest version" and the "Last released" date (Dec 21, 2018).
- Project description text:** States "A Python wrapper around OpenWeatherMap web APIs".
- Project description details:** Provides a brief 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




[Pull requests](#) [Issues](#) [Marketplace](#) [Explore](#)


[csparpa / pyowm](#)

 Watch


34


 Star


418


 Fork


76


 Code

 Issues 11

 Pull requests 0


 Projects 1


 Wiki


 Insights


A Python wrapper around the OpenWeatherMap web API <https://pyowm.readthedocs.io>


[pyowm](#) [python](#) [python-wrapper](#) [api](#) [openweathermap](#) [openweathermap-api](#) [api-client](#) [forhumans](#)

 631 commits

 5 branches

 20 releases

 9 contributors

 MIT

Branch: master


New pull request

Create new file






Upload files

Find file

Clone or download

 csparpa mentioned opensuse packaging

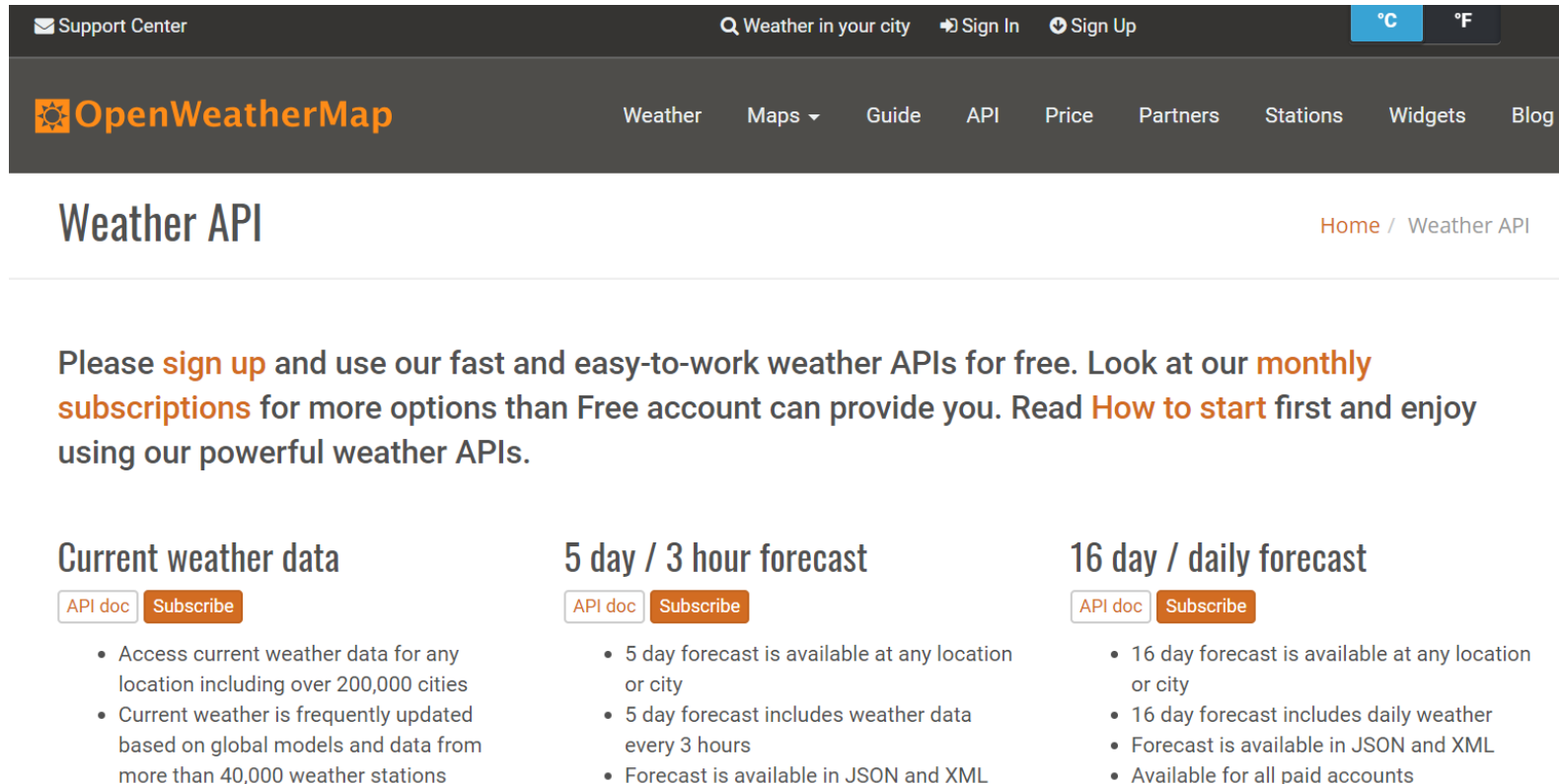
Latest commit cdd59eb on Jan 4

| | | |
|--|---|--------------|
|  deploy | Release 2.10 (#277) | 2 months ago |
|  dockerfiles | Patch Deadsnakes PPA as pointed out in #231 | a year ago |
|  logos | Logos license and updated copyright year | 7 months ago |
|  pyowm | Release 2.10 (#277) | 2 months ago |
|  scripts | 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 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 features the OpenWeatherMap logo and links to Weather, Maps, Guide, API, Price, Partners, Stations, Widgets, and Blog. The page title is 'Weather API', with a breadcrumb trail 'Home / Weather API'. The main content area explains that users should 'sign up' to use the APIs for free, with links to 'monthly subscriptions' and 'How to start'. Below this, three sections are listed: 'Current weather data', '5 day / 3 hour forecast', and '16 day / daily forecast'. Each section 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>

THANK YOU FOR LISTENING





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