



YOUR FIRST CODE: PRACTICAL WORKSHOP ON PYTHON

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softserve | academy



What about me ...



- 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

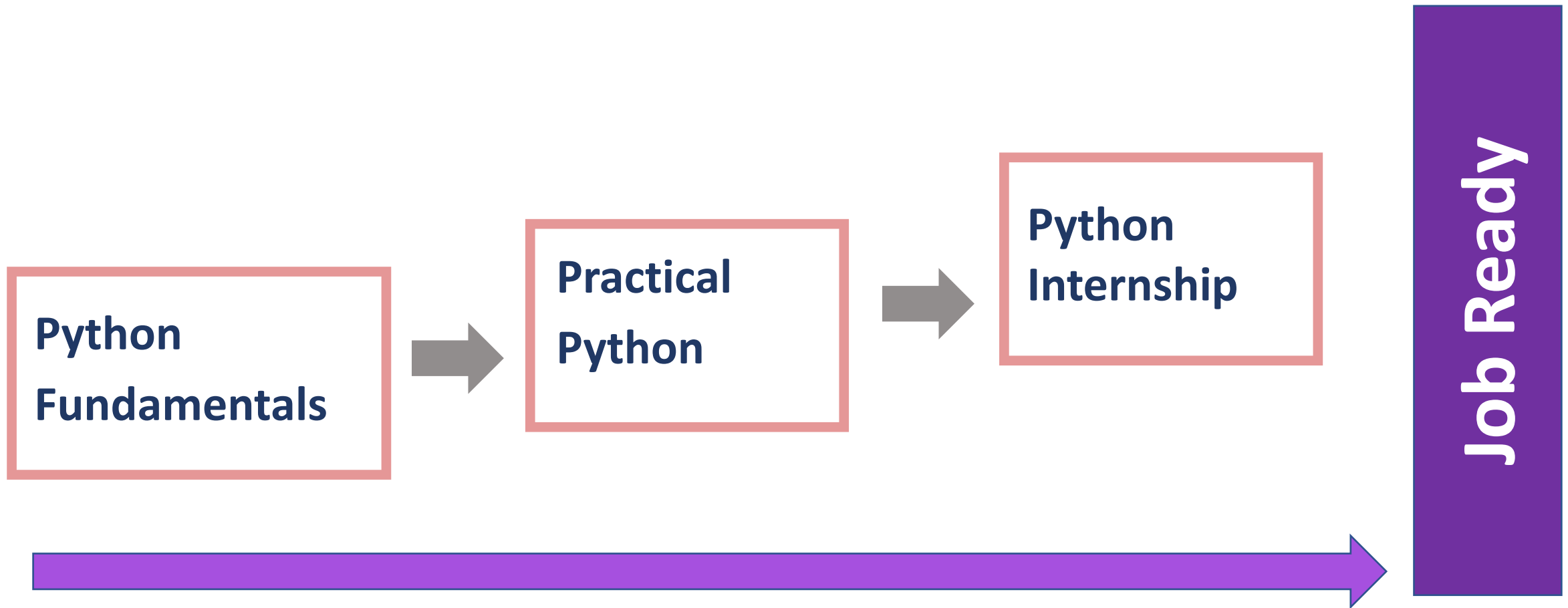
Join to Telegram



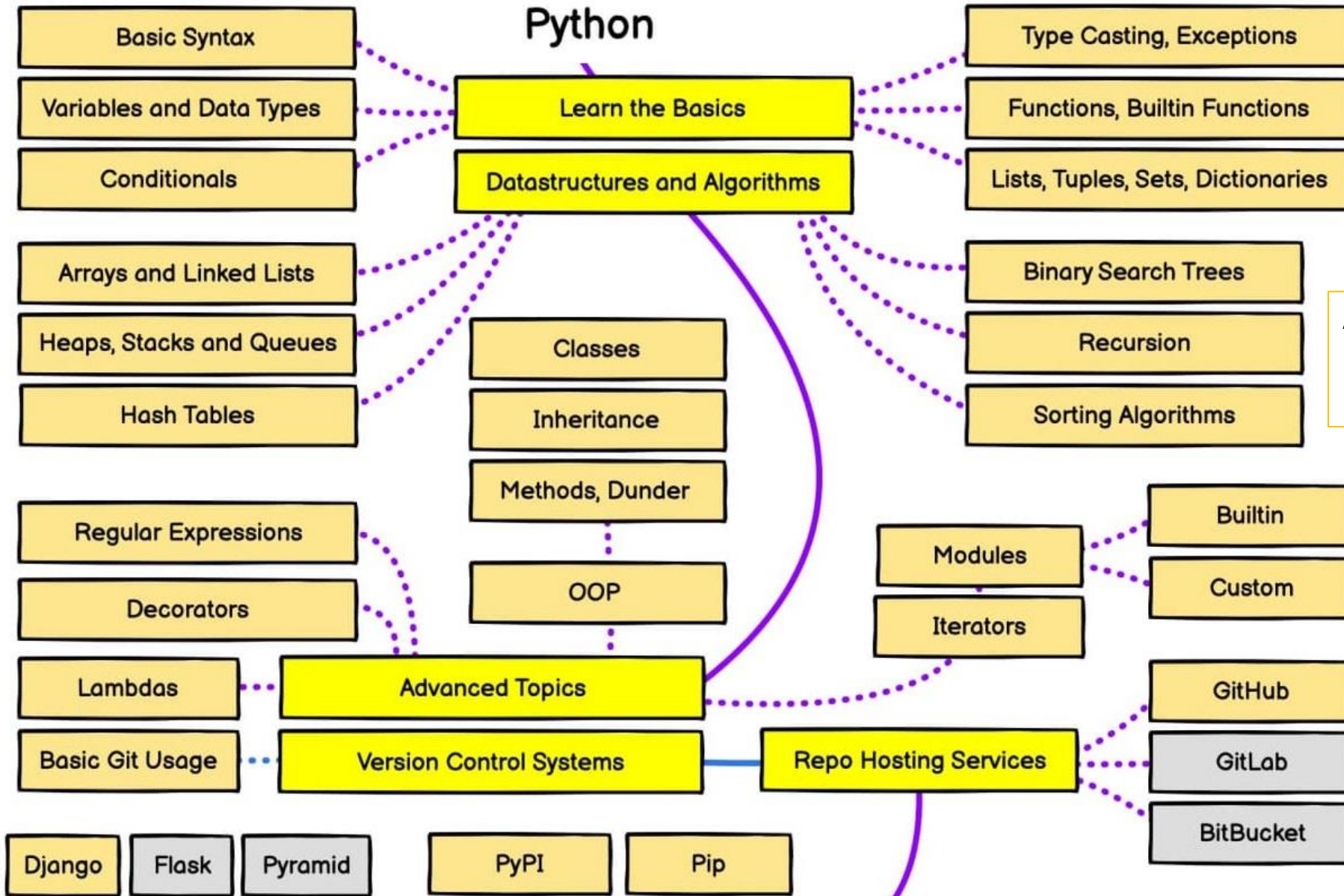
<https://t.me/switchitonjoin>



Python: Road Map



What will you get by learning Python Fundamentals?



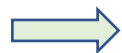
Additionally:

- ITA English Speaking Club
- Event invitations from Academy

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

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>

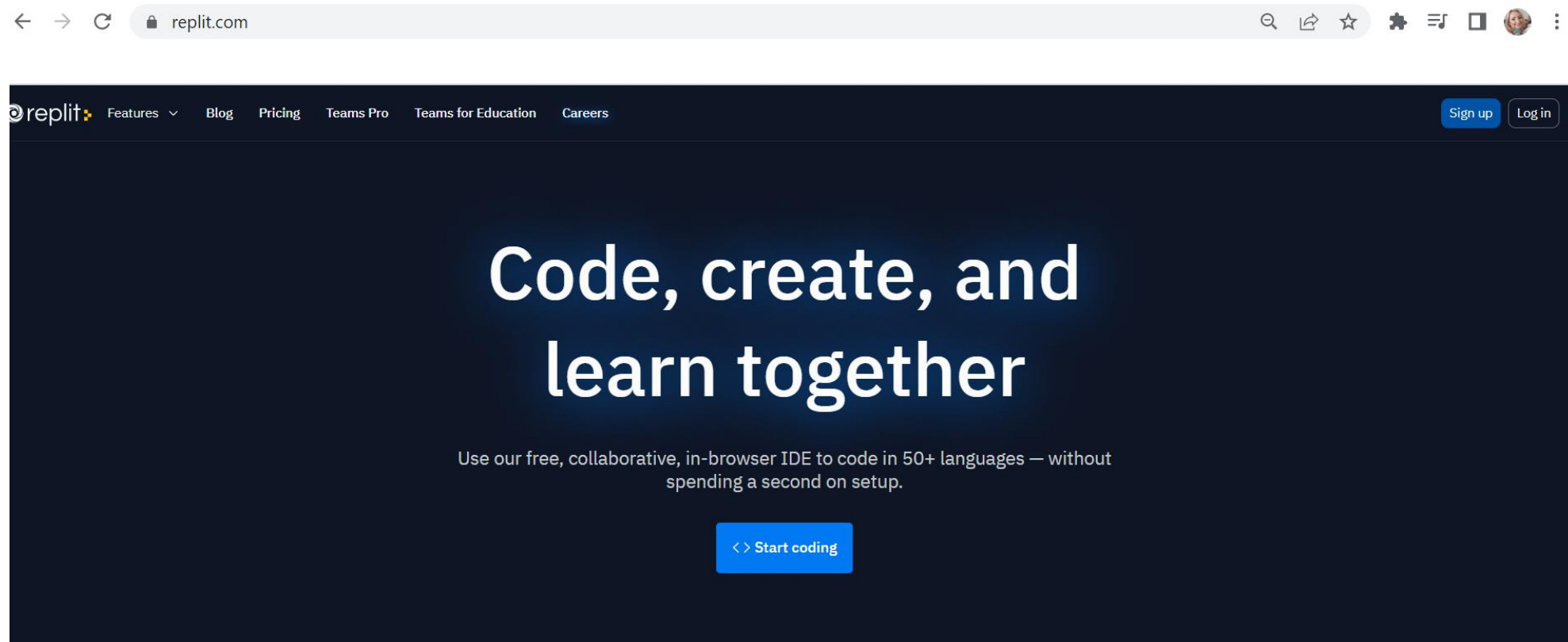
https://www.onlinegdb.com/online_python_compiler

<https://ideone.com/>

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

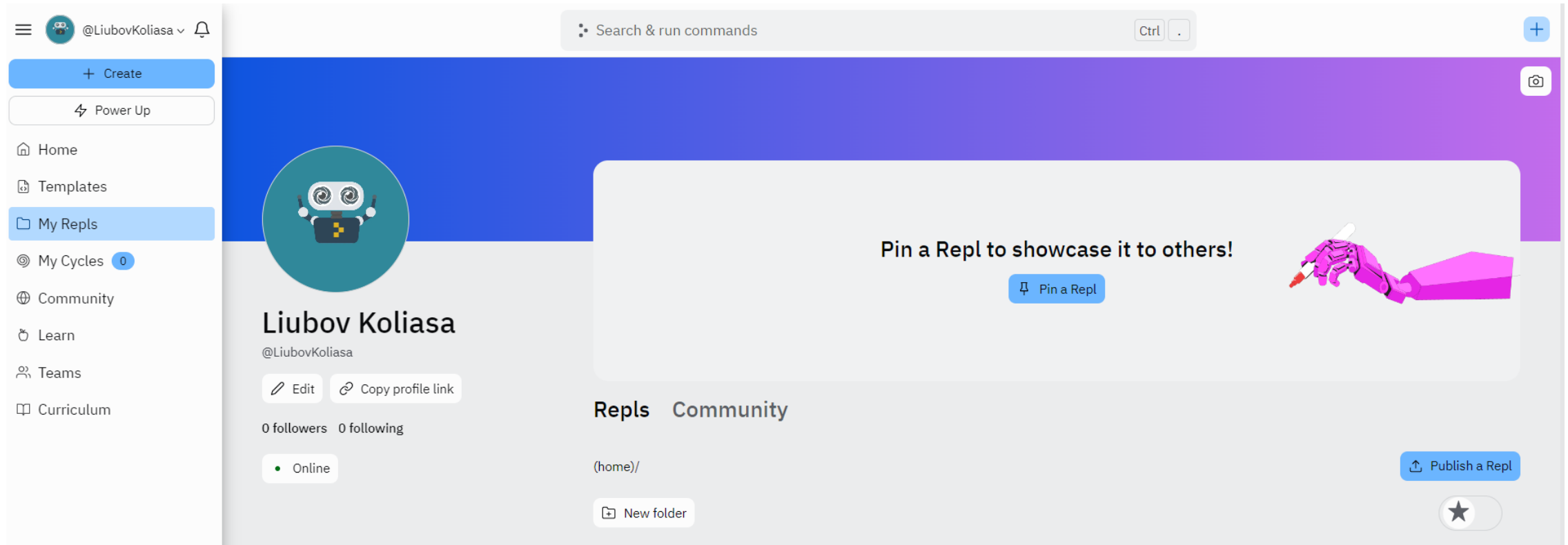
Online Python Editor – for example repl.it

<https://replit.com/>



Sign up & Log in

<https://replit.com/>



Python repl.it

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

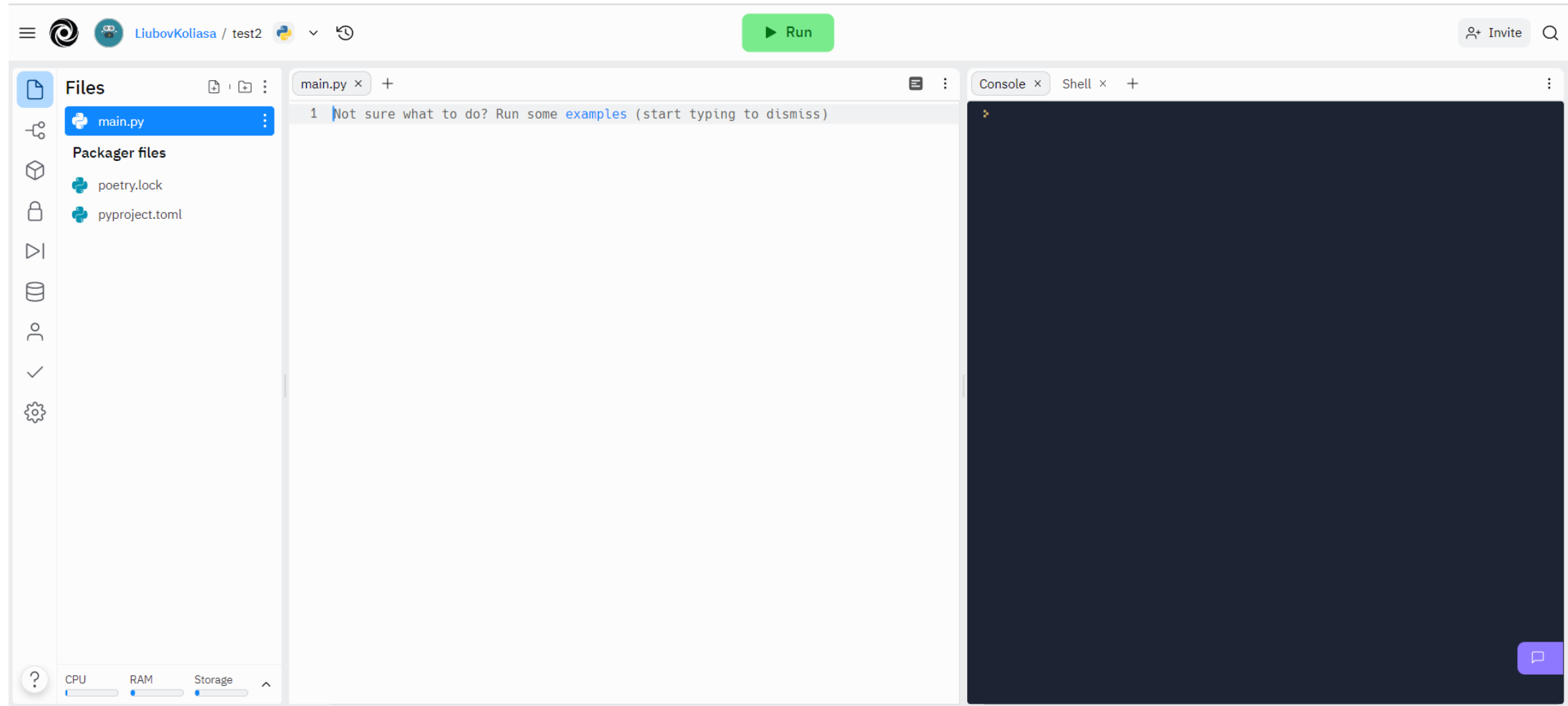
Create a Repl Modal (Left):

- 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 (selected), Anyone can view and fork this Repl. (toggle)
- Power Up:** Power Up to make private (button)
- Create Repl:** + Create Repl (button)

Create a Repl Modal (Right):

- Template:** Python (selected)
- Title:** WorrisomeVictoriousEquation (input field)
- Public:** Public (selected), Anyone can view and fork this Repl. (toggle)
- Power Up:** Power Up to make private (button)
- Create Repl:** + Create Repl (button)
- Python:** Python is a high-level, interpreted, general-purpose programming language. (description)
- replit:** 1.2K + 8.9M (stats)

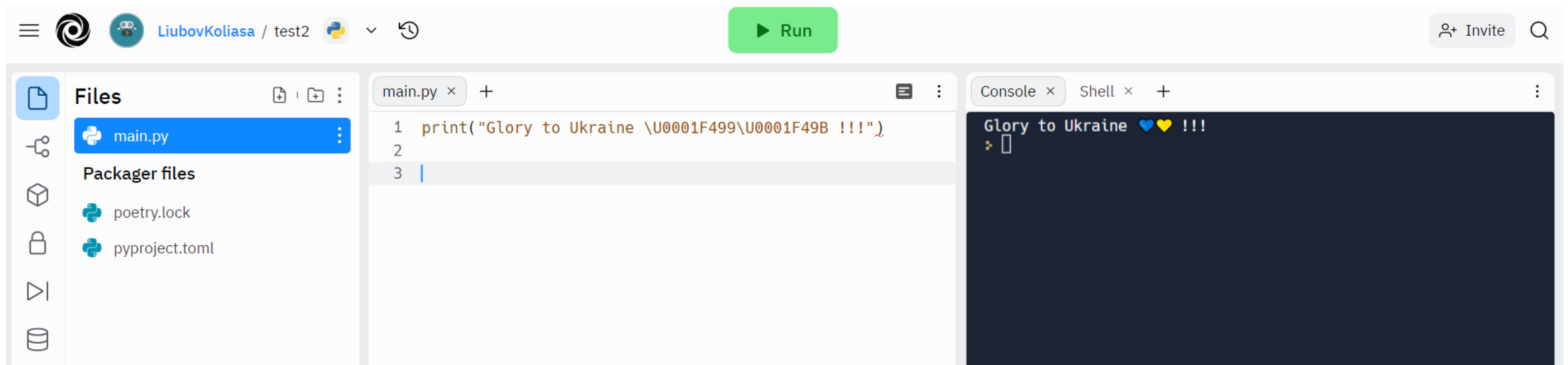
Python repl.it



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



PyOWM is a client Python wrapper library for OpenWeatherMap (OWM) web APIs.

<https://pypi.org/project/pyowm/>

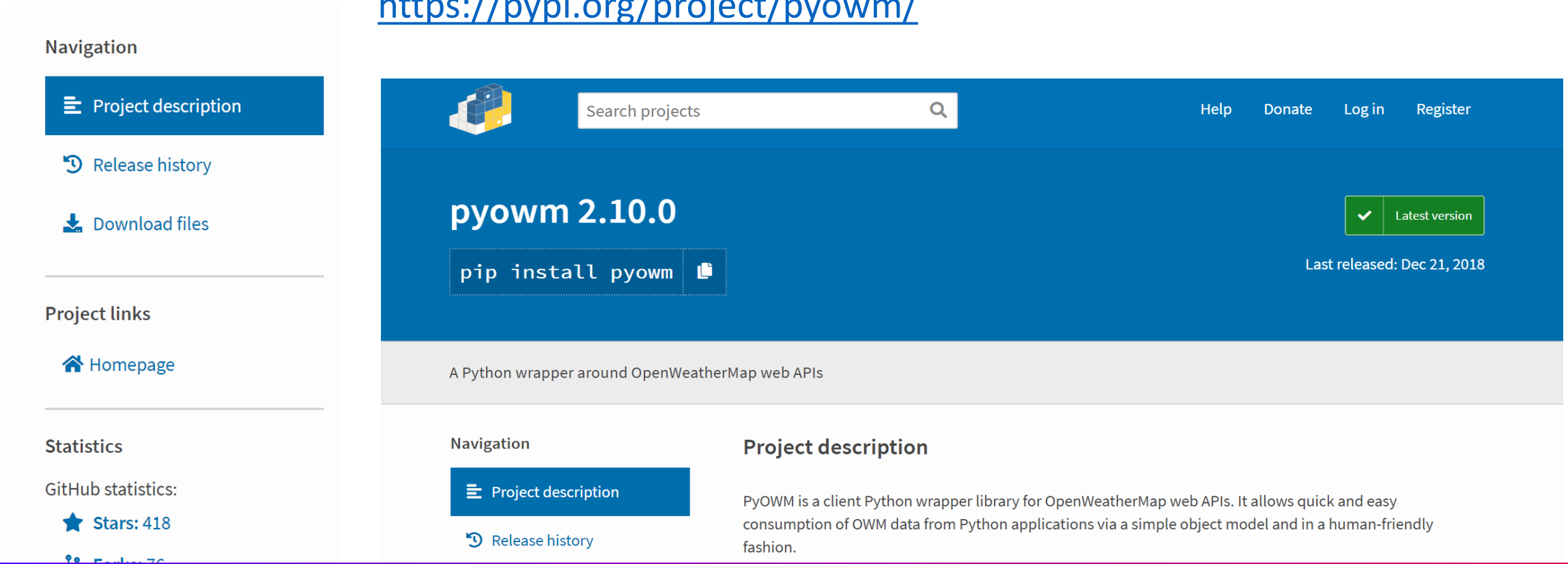


Supported environments and Python versions

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/project/pyowm/>



The screenshot displays the PyOWM project page on the Python Package Index (PyPI). The page features a blue header with a search bar and navigation links (Help, Donate, Log in, Register). The main content area shows the project name 'pyowm 2.10.0' in large white text, with a green checkmark and 'Latest version' badge. Below this, a button prompts users to 'pip install pyowm'. The description states: 'A Python wrapper around OpenWeatherMap web APIs'. The left sidebar contains navigation links for 'Project description', 'Release history', and 'Download files', as well as 'Project links' (Homepage) and 'Statistics' (GitHub statistics: Stars: 418, Forks: 76).

Navigation

- Project description
- Release history
- Download files

Project links

- Homepage

Statistics

GitHub statistics:

- Stars: 418
- Forks: 76


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

 Search or jump to... / 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

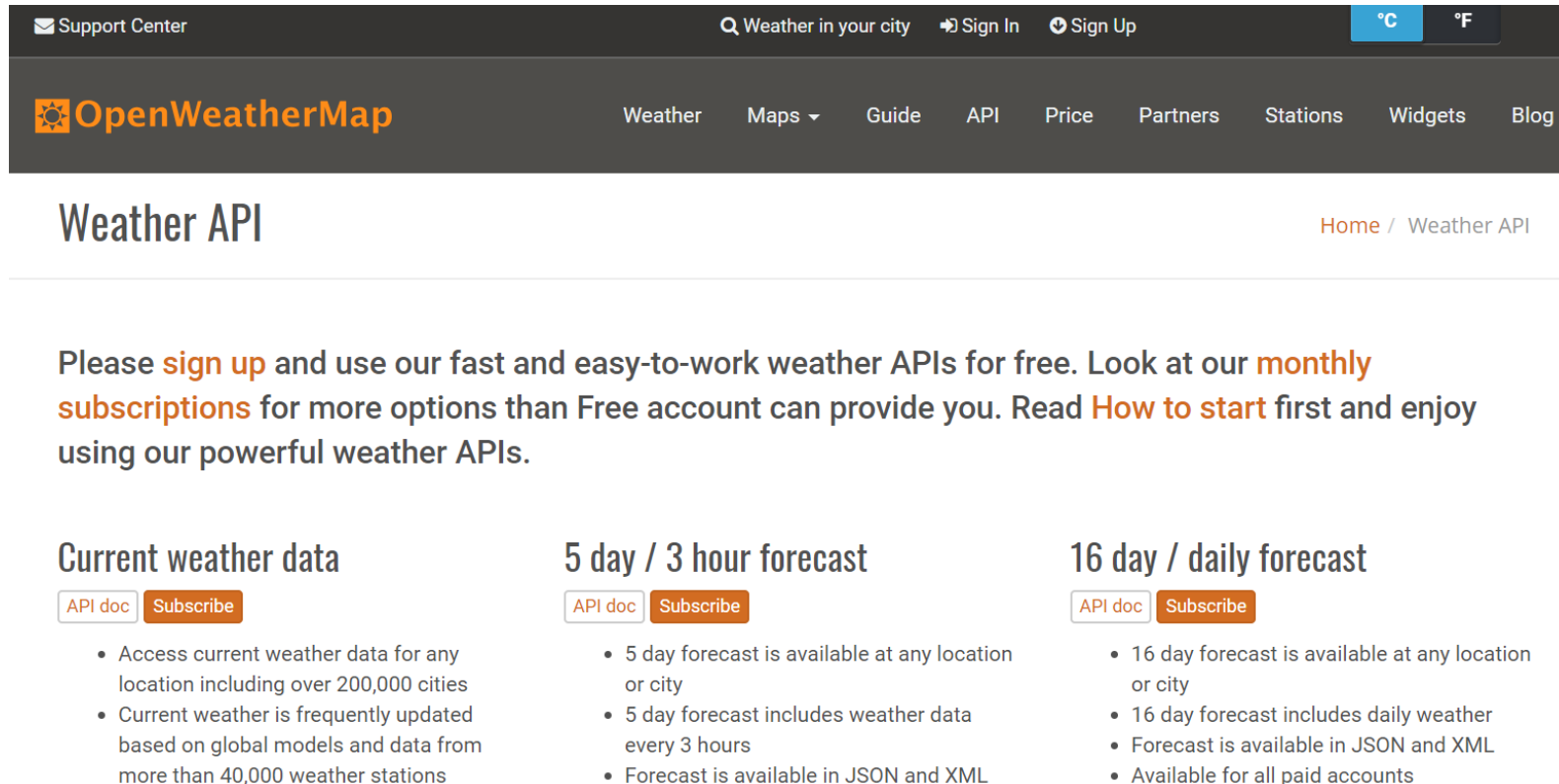
 csparpa mentioned opensuse packaging Latest commit cdd59eb on Jan 4

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 interface. At the top, there's a dark navigation bar with a 'Support Center' link, a search bar, and 'Sign In' and 'Sign Up' buttons. Below this is a secondary navigation bar with the OpenWeatherMap logo and links for Weather, Maps, Guide, API, Price, Partners, Stations, Widgets, and Blog. The main content area is titled 'Weather API' with a breadcrumb trail 'Home / Weather API'. A paragraph encourages users to sign up for free APIs, with links to 'monthly subscriptions' and 'How to start'. Below this, three columns describe different API services: 'Current weather data', '5 day / 3 hour forecast', and '16 day / daily forecast'. Each column includes an 'API doc' link, a 'Subscribe' button, and 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!





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