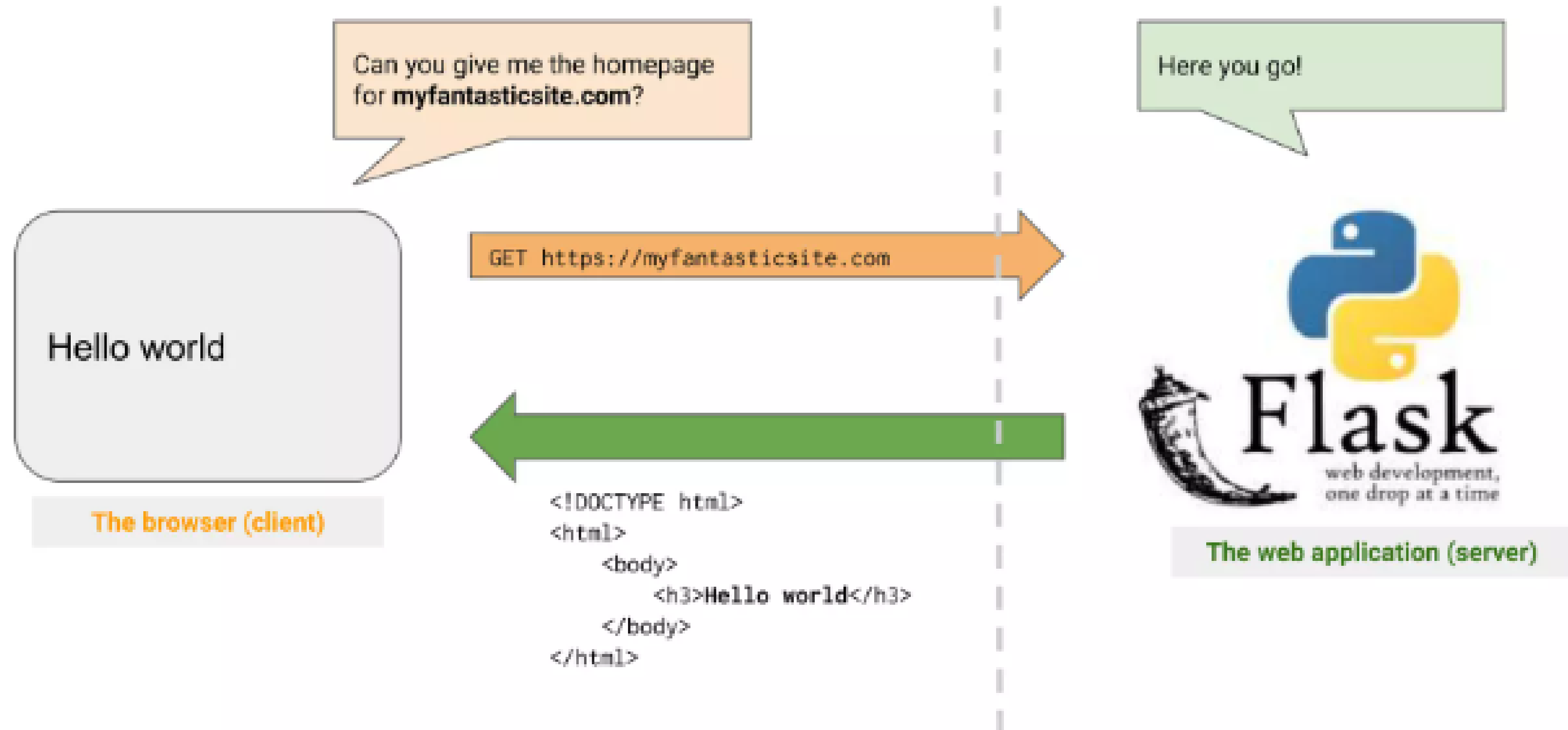# Introduction to Flask

By Nadhim T. - Student Coordinator - Web Dev - Tech Club '23

What is Flask?

- Flask is a lightweight Python framework for web applications
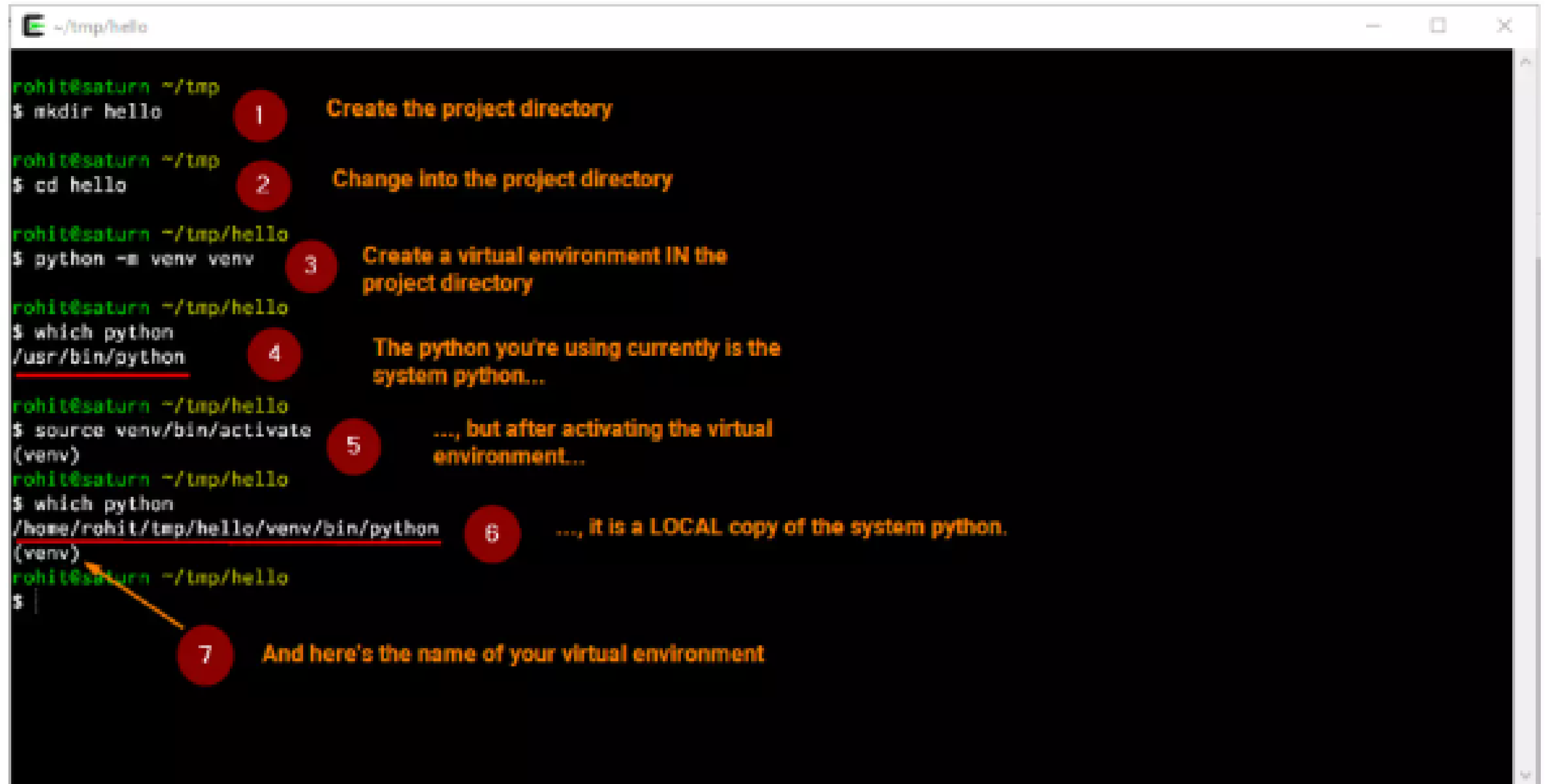
- It is called a micro framework

Framework for building web applications in Python

Can you give me the homepage for **myfantasticsite.com**?

Here you go!

GET https://myfantasticsite.com

Hello world

The browser (client)

```
<!DOCTYPE html>
<html>
    <body>
        <h3>Hello world</h3>
    </body>
</html>
```

Flask
web development,
one drop at a time

The web application (server)

Before writing a Flask application . . .

- Install Python

  - Python comes with a package manager called `pip`

- Install `virtualenv`

  - `pip install virtualenv`

- Create a directory for your web application

  - `mkdir hello`

- Activate `virtualenv` **inside** your application directory

  - `python -m venv venv`

Before writing a Flask application . . .
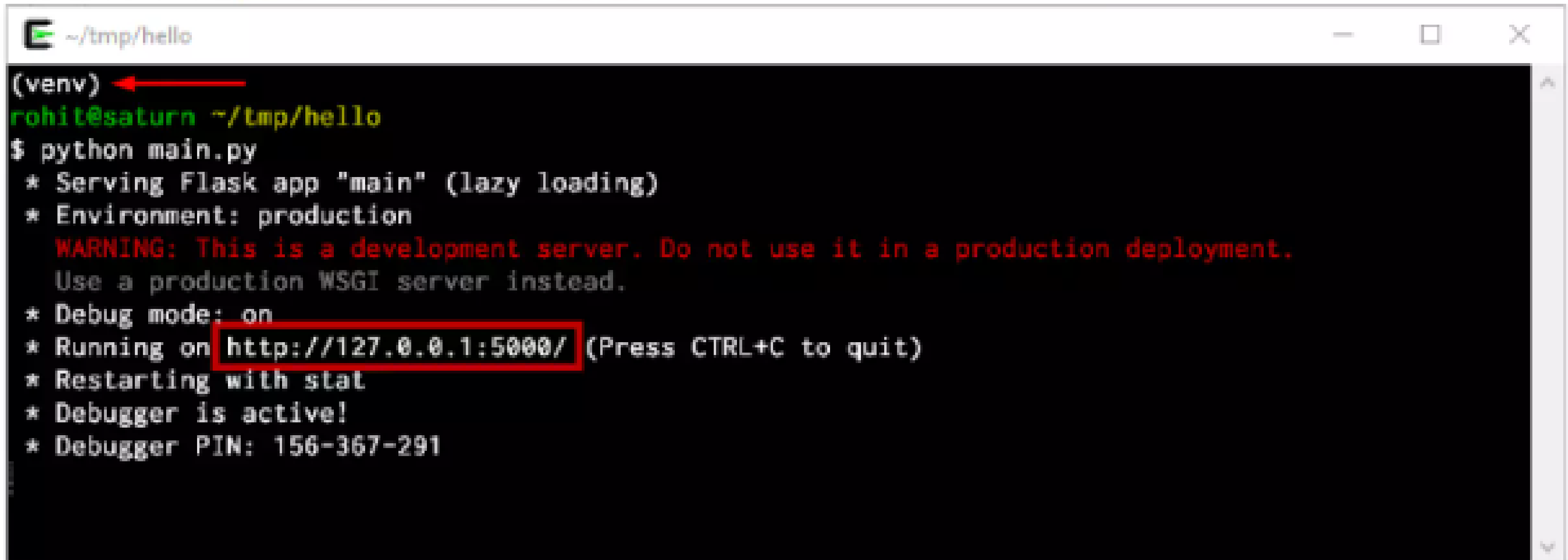
pip install flask

Writing your first Flask application

- Create a file called `main.py` in your project directory . . .

- . . . and edit it in your favorite text editor

```python
from flask import Flask

app = Flask(__name__)

app.run(debug=True)
```

Running your Flask application

- Run `main.py`, and visit `http://localhost:5000/` in your browser

- Note the `/`. That's the **route**
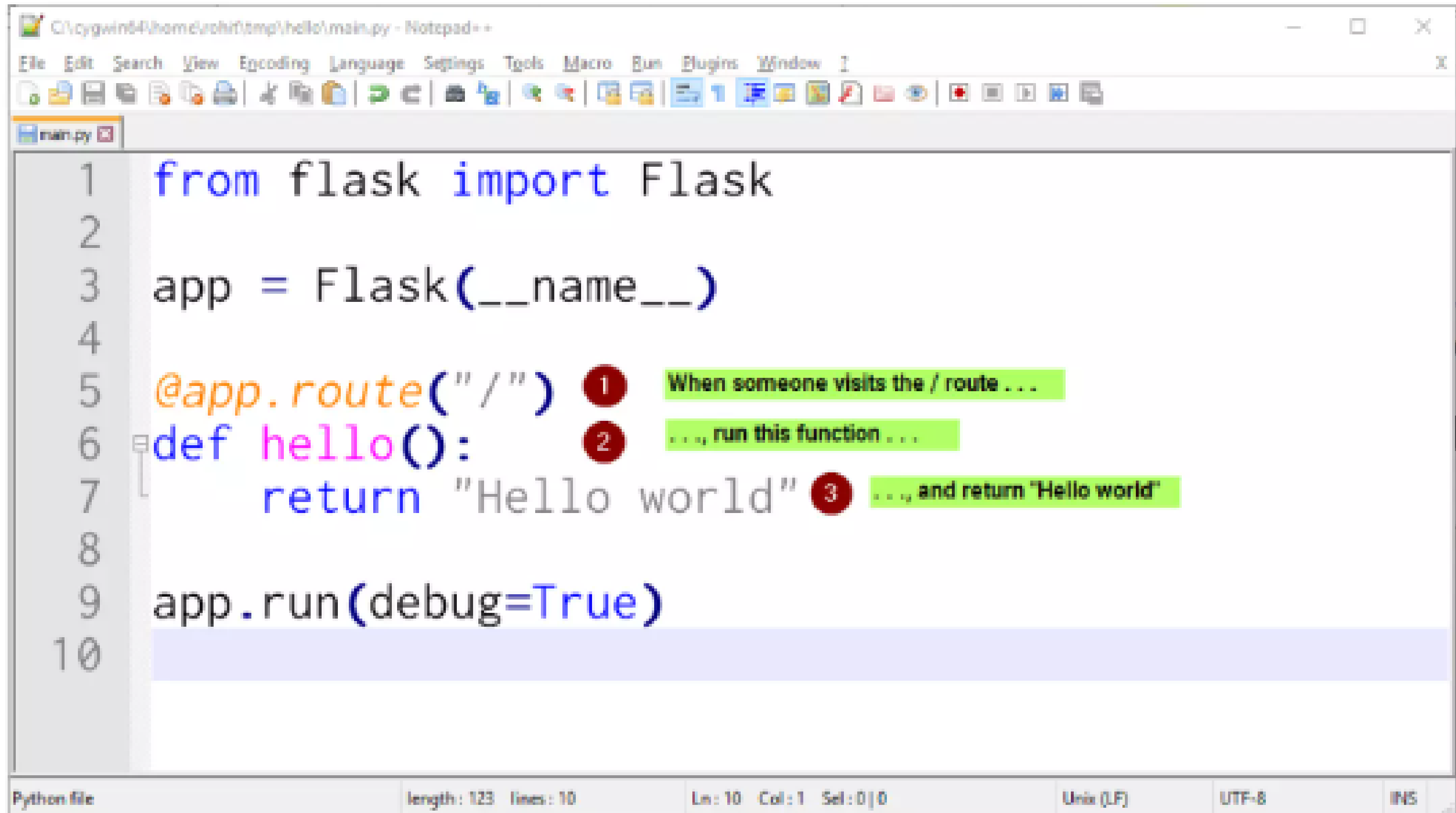
```
(venv)  ←
rohit@saturn ~/tmp/hello
$ python main.py
 * Serving Flask app "main" (lazy loading)
 * Environment: production
   WARNING: This is a development server. Do not use it in a production deployment.
   Use a production WSGI server instead.
 * Debug mode: on
 * Running on http://127.0.0.1:5000/ (Press CTRL+C to quit)
 * Restarting with stat
 * Debugger is active!
 * Debugger PIN: 156-367-291
```

Defining routes

- The web server is running at `http://localhost:5000`, but you didn't tell it what to return when someone visits the **/ route**

- To do that, you have to add a function for the **/** route

- Flask uses Python **decorators** to define routes

- There can be any number of routes in your application

Defining routes


```python
from flask import Flask

app = Flask(__name__)


@app.route("/")         ① When someone visits the / route . . .
def hello():            ② . . ., run this function . . .
    return "Hello world" ③ . . ., and return "Hello world"


app.run(debug=True)
```

Check out these Resources:

Flask Full Playlist:

https://www.youtube.com/playlist?list=PL-osiE80TeTs4UjLw5MM6OjgkjFeUxCYH

Troubleshoot for Errors during Virtual Environment Setup:
https://www.youtube.com/watch?v=fEgTujWQ5Wk