BUILDING A CHATBOT

Data Science with Python Lab Project Report
Bachelor
in
computer science

INTERNATIONAL SCHOOL OF TECHNOLOGY AND SCIENCE FOR **WOMEN**

Name::Saladi Purna *Sri*

Roll Number::*226w1A0549*

Branch:*Computer Science And Engineering*

College: *International School of Technology And Sciences For Women's*

Project Name: *BUILDING A CHATBOT*

BUILDING A CHATBOT

Introduction

- A **chatbot** is an AI-based program that simulates human conversation

- This Python project involves creating a **rule-based chatbot** that can respond to simple inputs such as greetings, emotional words, or motivational queries.

-It demonstrates the use of basic **Natural Language Processing (NLP)** techniques and **conditional logic** to interact with users through the command line.

Features

✅ **Text-Based User Interaction**

🧠 Keyword Detection

📚 Basic Emotional Support

💭 **Multiple Response Variants**

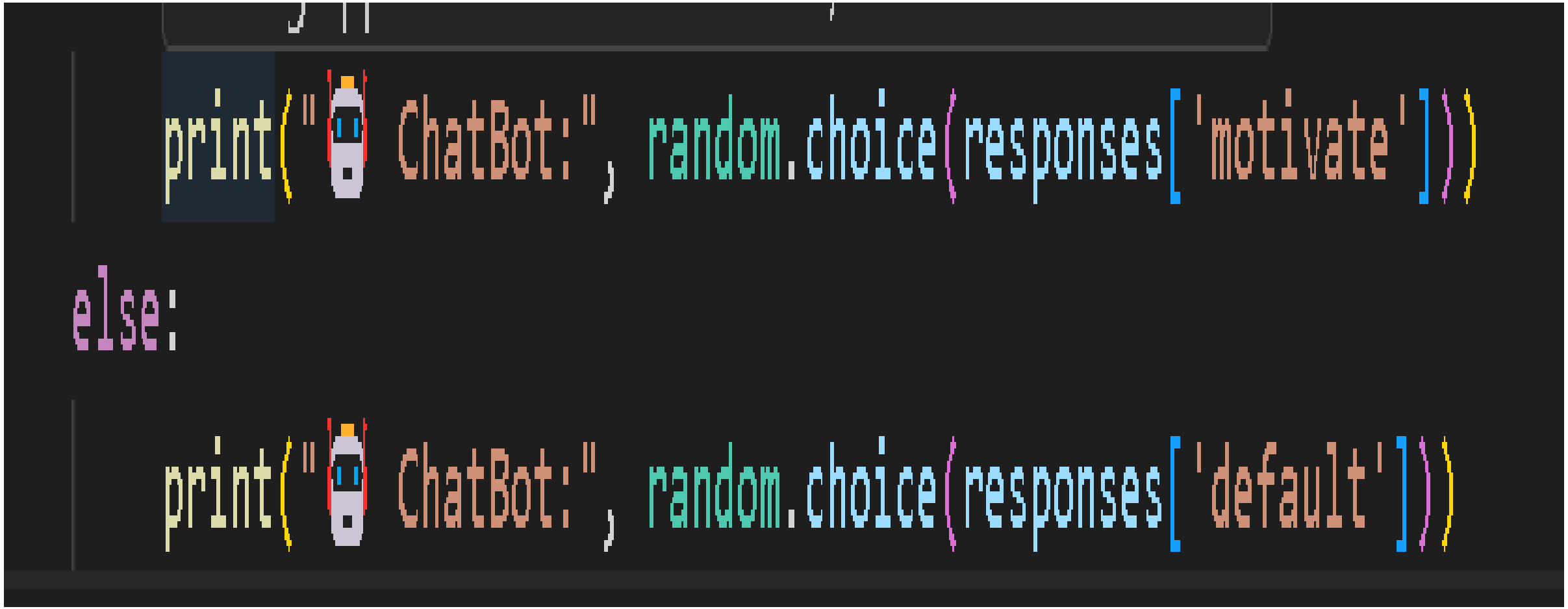
🛠️ Technologies

- **Programming Language:** Python 3.x
- **Libraries Used:**
  - -random – for generating varied replies
  - -string or re (optional) – for advanced text clea
- **IDE:** VS Code / Jupyter Notebook / IDLE
- **Platform:** Console-based

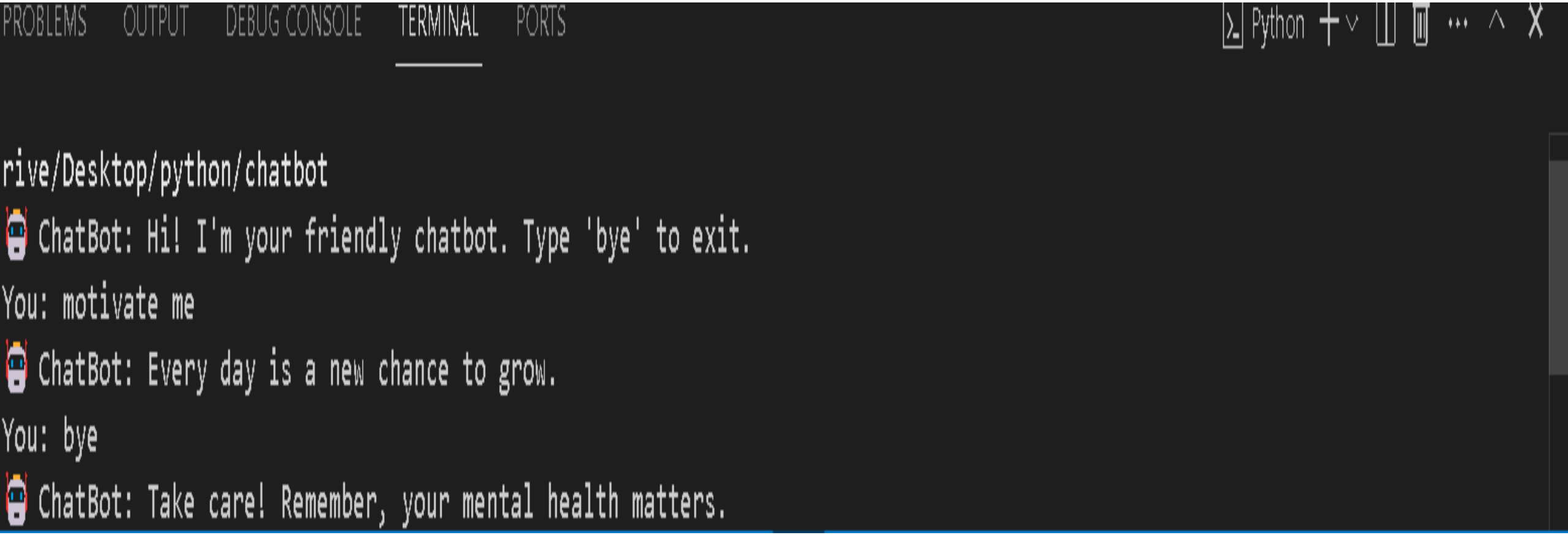
code

chatbot > ...

```python
import random

# Define groups of inputs
greetings = ['hi', 'hello', 'hey']
feelings = ['sad', 'depressed', 'angry', 'anxious']
motivation = ['motivate', 'encourage', 'inspire']

# Define chatbot responses
responses = {
    'greeting': ["Hello! How can I help you today?", "Hi there! Feeling okay?", "Hey! How's your day going?"],
    'feeling': ["I'm here for you. You're not alone.", "It's okay to feel that way sometimes.", "Try to take a c
    'motivate': ["Believe in yourself, you're doing great!", "Every day is a new chance to grow.", "You've got t
    'default': ["Can you tell me more?", "I'm listening...", "That's interesting!"]
}

# Chatbot main loop
def chatbot():
    print("🤖 ChatBot: Hi! I'm your friendly chatbot. Type 'bye' to exit.")
    while True:
        user_input = input("You: ").lower()

        if user_input == 'bye':
            print("🤖 ChatBot: Take care! Remember, your mental health matters.")
            break
        elif any(word in user_input for word in greetings):
            print("🤖 ChatBot:", random.choice(responses['greeting']))
        elif any(word in user_input for word in feelings):
            print("🤖 ChatBot:", random.choice(responses['feeling']))
        elif any(word in user_input for word in motivation):
```


print("🤖 ChatBot:", random.choice(responses['motivate']))
else:
print("🤖 ChatBot:", random.choice(responses['default']))

Out put


PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
Python
rive/Desktop/python/chatbot
ChatBot: Hi! I'm your friendly chatbot. Type 'bye' to exit.
You: motivate me
ChatBot: Every day is a new chance to grow.
You: bye
ChatBot: Take care! Remember, your mental health matters.

Web Scraping

Subtitle: Extracting Data from the Web

INTRODUCTION

- Web scraping is the process of **automatically extracting data from websites** using computer programs.
- Web scraping helps automate data collection and supports real-time dashboards, research reports, and data-driven decision-making

Key Benefits of Web Scraping

-Valuable in Marketing and SEO

-Supports Research and Data Collection

-Powers Real-Time Applications

-Enables Data-Driven Decision Making

End-To-End Web Scraping Procedure:

- Locate and Extract Data
- **Clean and Structure the Data(using pandas)**
- **Parse HTML** using tools like BeautifulSoup or lxml
- Automate Navigation
- **Store Data** (CSV, JSON, DB, etc.)

Popular web scraping tools & Libraries

- **Python** (most commonly used)
  - Lxml
  - Pandas
  - csv / json / openpyxl
  - Scrapy

code

homepage.html | web scraping | wolves.py | gg.py | 1.py | mob.py

web scraping > ...

```python
import requests
from bs4 import BeautifulSoup

url = "https://quotes.toscrape.com"
response = requests.get(url)

soup = BeautifulSoup(response.text, 'html.parser')
quotes = soup.find_all('span', class_='text')

print("Quotes from quotes.toscrape.com:\n")
for idx, quote in enumerate(quotes, 1):
    print(f"{idx}. {quote.text}")
```

output

```
8   quotes = soup.find_all('span', class_='text')
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

Python

```
1. “The world as we have created it is a process of our thinking. It cannot be changed without changing our thinking.”
2. “It is our choices, Harry, that show what we truly are, far more than our abilities.”
3. “There are only two ways to live your life. One is as though nothing is a miracle. The other is as though everything is a mi
racle.”
4. “The person, be it gentleman or lady, who has not pleasure in a good novel, must be intolerably stupid.”
5. “Imperfection is beauty, madness is genius and it's better to be absolutely ridiculous than absolutely boring.”
6. “Try not to become a man of success. Rather become a man of value.”
7. “It is better to be hated for what you are than to be loved for what you are not.”
8. “I have not failed. I've just found 10,000 ways that won't work.”
9. “A woman is like a tea bag; you never know how strong it is until it's in hot water.”
10. “A day without sunshine is like, you know, night.”
PS C:\Users\BALU\OneDrive\Desktop\python>
```

conclusion

-Web scraping is a powerful and practical technique used to **automatically extract data from websites**.

-Help of python and libraries like requests,beautifulsoap,and pandas,we can collect and analyze large volumes of web

data efficiently.

Calculator

Introduction

This project is a **simple calculator application** developed using **Python programming language**. It performs **basic arithmetic operations** such as addition, subtraction, multiplication, and division. The calculator takes input from the user, processes the operation based on the selected operator, and displays the result.

This project is ideal for beginners as it helps strengthen the understanding of:

- **User input handling**
- **Conditional statements (if-elif-else)**
- **Functions and logic building in Python**

The calculator runs in the **console/command line**, but it can also be extended into a **GUI version using Tkinter**.

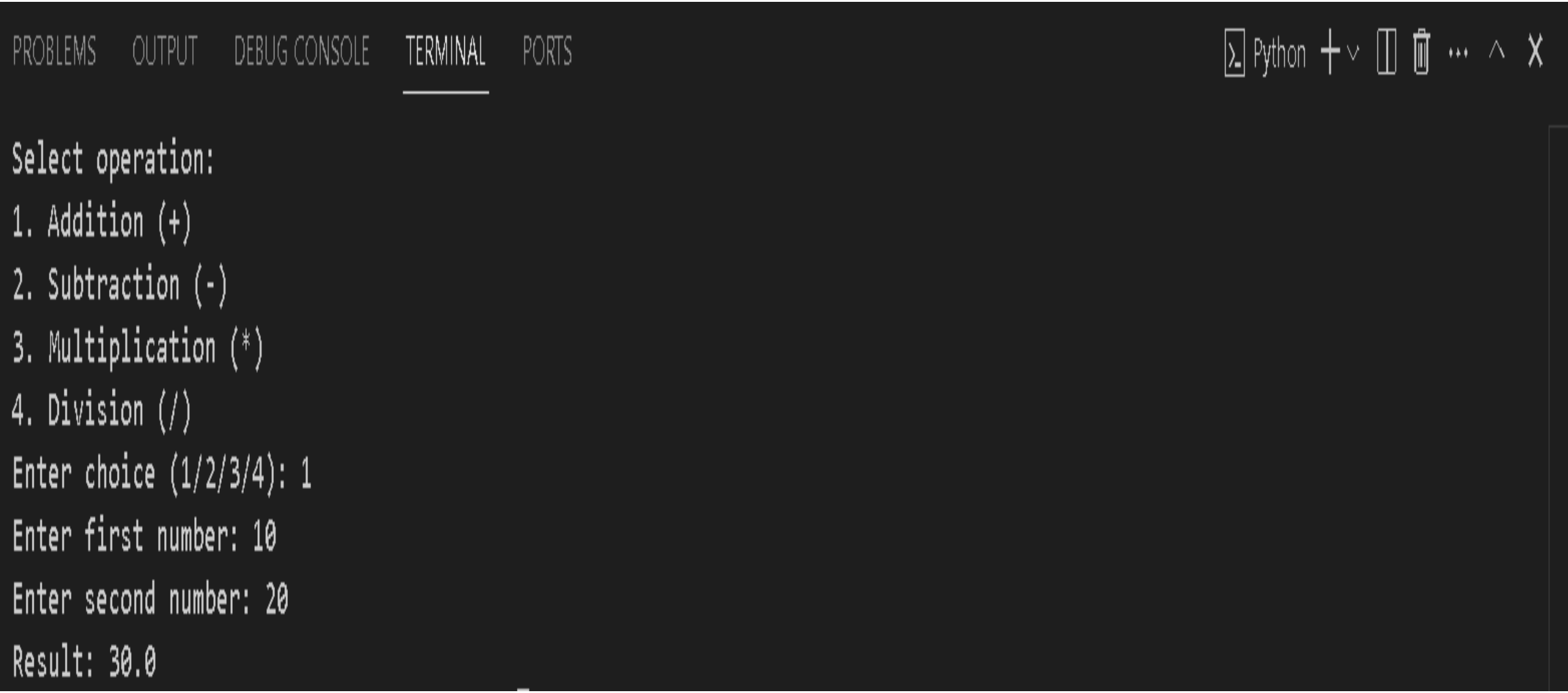
code

calculator.py > ...

```python
def add(a, b):
    return a + b

def subtrac(parameter) a: Any
    return a - b

def multiply(a, b):
    return a * b

def divide(a, b):
    if b != 0:
        return a / b
    else:
        return "Error! Division by zero."
print("🧮 Simple Calculator")
print("Select operation:")
print("1. Addition (+)")
print("2. Subtraction (-)")
print("3. Multiplication (*)")
print("4. Division (/)")

choice = input("Enter choice (1/2/3/4): ")

try:
    num1 = float(input("Enter first number: "))
    num2 = float(input("Enter second number: "))

    if choice == '1':
        print("Result:", add(num1, num2))
```

```
        print("Result:", add(num1, num2))
    elif choice == '2':
        print("Result:", subtract(num1, num2))
    elif choice == '3':
        print("Result:", multiply(num1, num2))
    elif choice == '4':
        print("Result:", divide(num1, num2))
    else:
        print("Invalid input! Please select 1 to 4.")
except ValueError:
    print("Invalid number entered. Please enter numeric values only.")
```

output


PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
Python
Select operation:
1. Addition (+)
2. Subtraction (-)
3. Multiplication (*)
4. Division (/)
Enter choice (1/2/3/4): 1
Enter first number: 10
Enter second number: 20
Result: 30.0

Portfolio

Hello! I’m purna sri, A passionate and driven individual currently pursuing my studies in **Computer Science and Engineering**. This portfolio is a

reflection of my journey, showcasing my skills, projects, interests,and accomplishments. I have a strong enthusiasm for learning new technologies and applying them through real-world projects. From

academic challenges to personal initiatives, I constantly seek opportunities to grow, innovate, and make a positive impact. Thank you for taking the time to explore my portfolio

code

Welcome | frist.py | proj.py | flie handilingclass.py | homepage.html | portfolio | aboutmine.html

aboutmine.html > html > body > center > h2

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>AboutMine</title>
    <link rel="stylesheet", href="style1.css">
</head>
<body>

    <center>
    <h2><strong>This is AboutMinePage</strong></h3>

    <ul>
        <li><h4><em> I am found of reading books</em></h4></li>
    </ul>
    <a href="https://amazon.in/Harry-Potter-Philosophers-Stone-Rowling/dp/1408855658/ref=asc_df_1408855658/?tag=

        <strong>HarryPoterBookLink</strong>

    </a>
    <br><br>

        <ul>
            <li><h4><em>I Spend my Quality time with my Pet</em></h4></li>
```

```
        </ul>
        <a href="https://www.google.com/search?q=dog+images&oq=dog+i&gs_lcrp=EgZjaHJvbWUqDAgAECMYJxiABBiKBTIMCAAQIxgnGIAEGIoFMgwIARAjG
        <strong>My Pet Images</strong>
        </a>
    <br><br>
        <ul>
            <li><h4><em>I am found of Music</em></h4></li>
            </ul>
            <a href="https://www.jiosaavn.com/featured/arijit-singh-telugu/vI3X1eXvhBGO0eMLZZxqsA__>">
                <strong>Check My Arjit Songs</strong>
            </a>


        <ul>
            <li><h4><em>My passion is to become a Interior Designer</em></h4></li>
        </ul>
        <a href=" https://google.com/search?q=some+interior+design+pics&oq=some+interior+design+pics&gs_lcrp=EgZjaHJvbWUyBggAEEUYOTIHC
          <strong>Check My Interiors</strong>
        </a>

    </div>
    </center>

</body>
</html>
```

output

This is AboutMinePage

- ***I am found of reading books***

  HarryPoterBookLink

- ***I Spend my Quality time with my Pet***

  My Pet Images

- ***I am found of Music***

  Check My Arjit Songs

- ***My passion is to become a Interior Designer***

  Check My Interiors

Homepage

homepage.html > html > body

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>My HomePage</title>
    <style>
        body {
            background-color: aliceblue;
            font-family: Arial, Helvetica, sans-serif;
        }
        img {
            width: 300px;
            height: auto;
            border-radius: 15px;
            box-shadow: 0 4px 8px rgba(0, 0, 0, 0.2);
            margin: 20px 0;
        }
    </style>
</head>
<body>
```

```
<body>
    <center>
        <h1>Welcome to my Portfolio Homepage</h1>

        <!-- SAMPLE IMAGE USED HERE -->
        <img src="https://i.postimg.cc/BvRrd91c/IMG-20231025-WA0002.jpg" alt="Purna's Image">

        <h3><em>This is Purna</em></h3>
        <h4><strong>I am Pursuing My Engineering..</strong></h4>
    </center>
</body>
</html>
```

output

127.0.0.1:5500/homepage.html

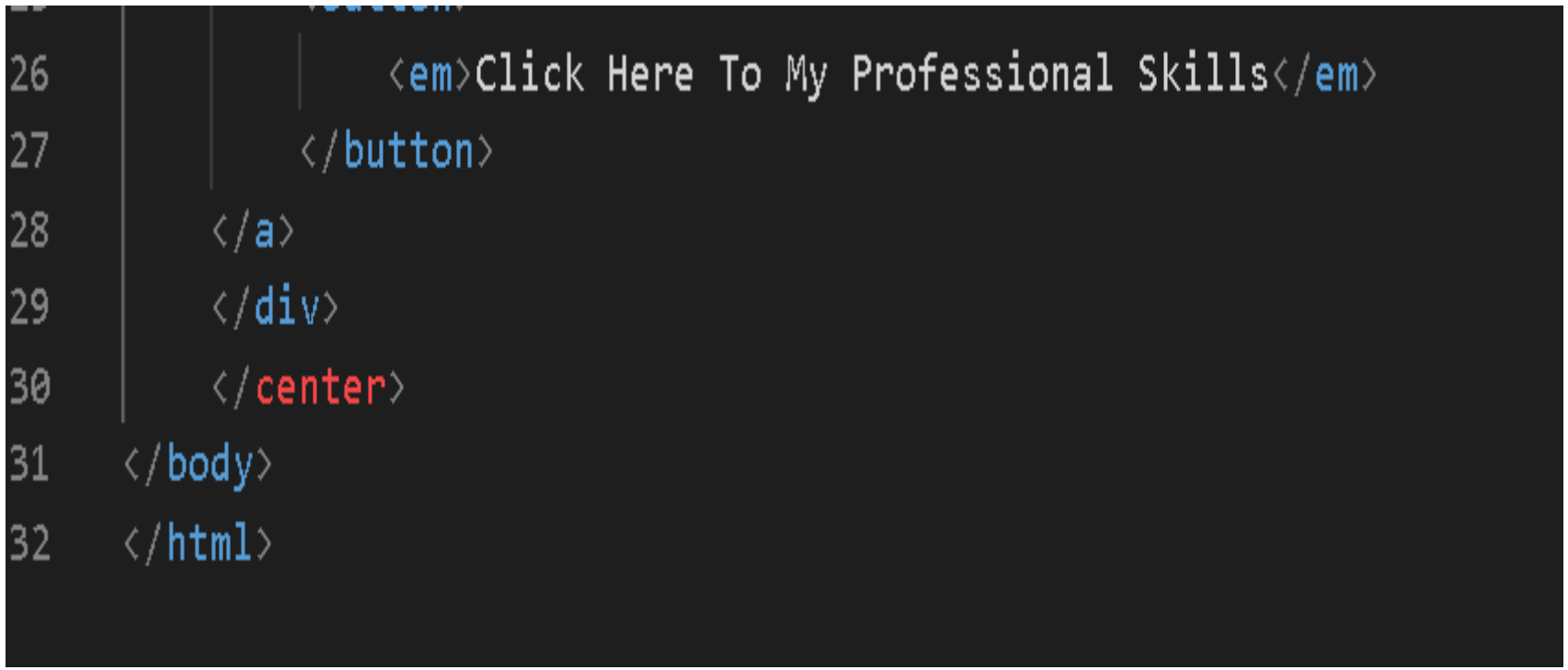
Welcome to my Portfolio Homepage

This is Purna

I am Pursuing My Engineering..

portfolio


```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>MyPortfolio</title>
    <link rel="stylesheet", href="style3.css">
</head>
<body>
    <center>
    <h1><em>This is Purna's Portfolio</em></h1>

    <div>
    <a href="Homepage.html">
        <button>
            <em>Click On My HomePage</em>
        </button>
    </a>
    <a href="Aboutmine.html">
        <button>
            <em>Click On My HobbiesPage</em>
        </button>
    </a>
    <a href="experience.html">
        <button>
```


26 Click Here To My Professional Skills
27 </button>
28
29
30
31 </body>
32 </html>

output


127.0.0.1:5500/html
This is Purna's Portfolio
Click On My HomePage
Click On My HobbiesPage
Click Here To My Professional Skills

Experience

homepage.html > html > style > .Tabledecor

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>My Experience</title>
    <link rel="stylesheet" href="style2.css">
</head>
<style>
    table,th,td{
        border: 5px, solid black;

    }

.Tabledecor{
    display:flex;
    justify-content: center;


}
</style>
<body>
    <center>
    <div>
    <h2><strong>My Experiences</strong></h2>
```

```
    <h3><em>I am a fresher with zero years of Experience</em></h3>
    <h4>I have good knowledge in CorePython and Good skills in Webdevelopment Using Html and CSS</h4>
    <h3>Rating My Programming language Skills</h3>
    </div>
    </center>
<div class="Tabledecor">
<table>
    <tr>
        <th>C</th>
        <th>Python</th>
        <th>SeriveNow</th>
    </tr>
    <tr>
        <td>***</td>
        <td>*****</td>
        <td>****</td>
    </tr>
</div>
</table>
</body>
</html>
```

output

127.0.0.1:5500/homepage.html

My Experiences

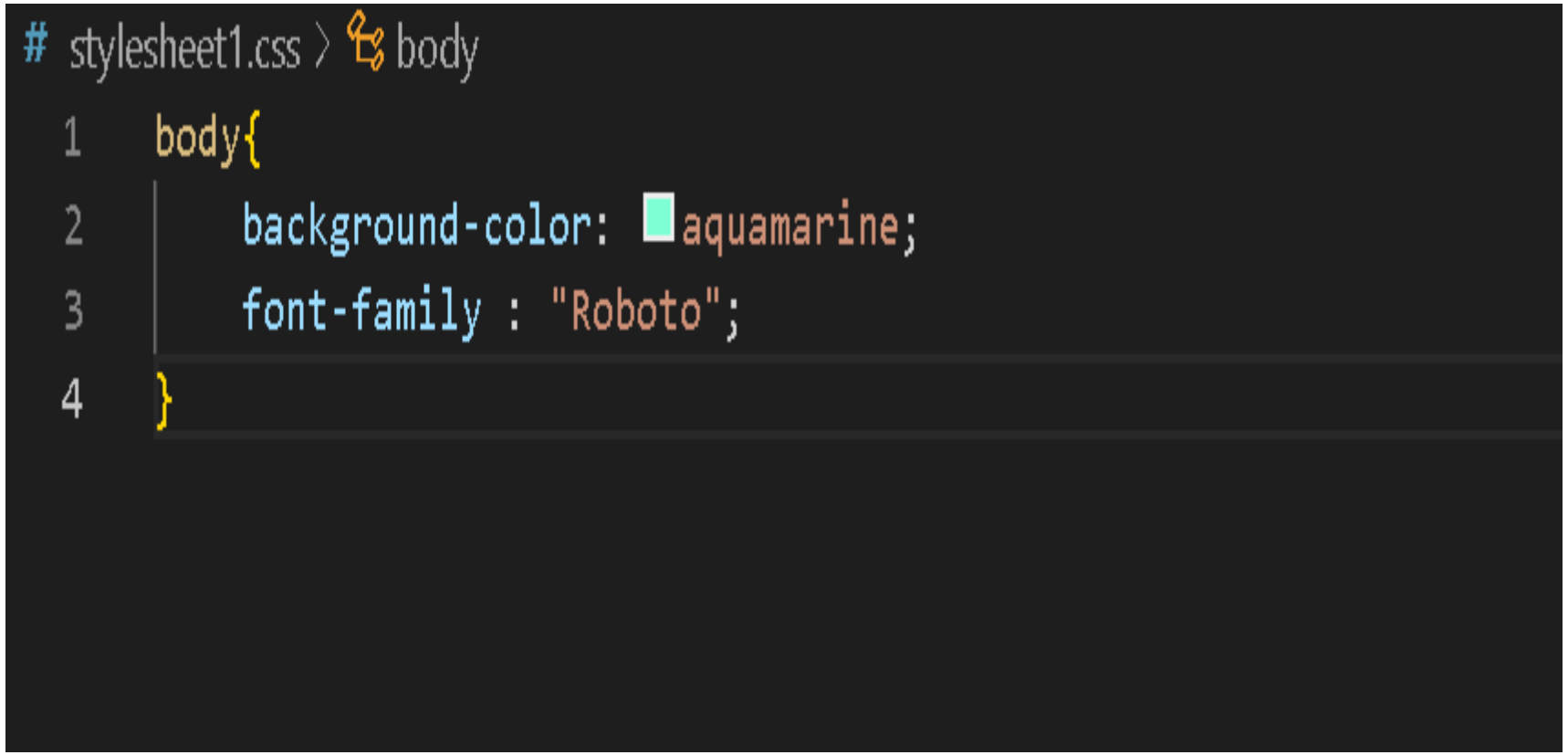
I am a fresher with zero years of Experience

I have good knowledge in CorePython and Good skills in Webdevelopment Using Html and CSS

Rating My Programming language Skills

C	Python	SeriveNow
***	******	*****

Style sheet 1



output

This is AboutMinePage

- *I arn found of reading books*

HarryPoterBookLink

- *I Spend my Quality time with my* Pet

My Pet Images

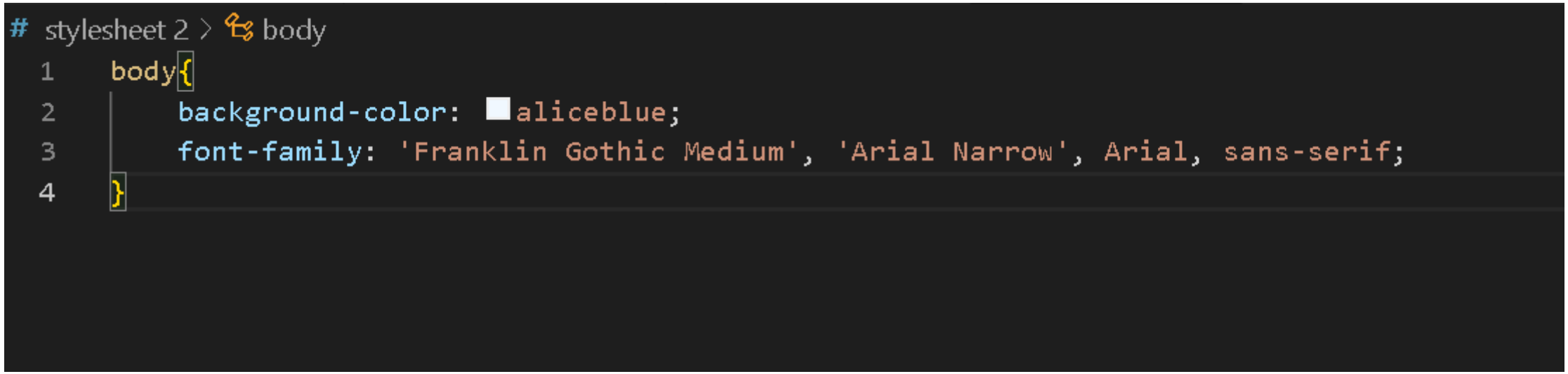
- *I arn found of Music*

Check My Arjit Songs

- *My passion is to become a Interior Designer*

Check My Interiors

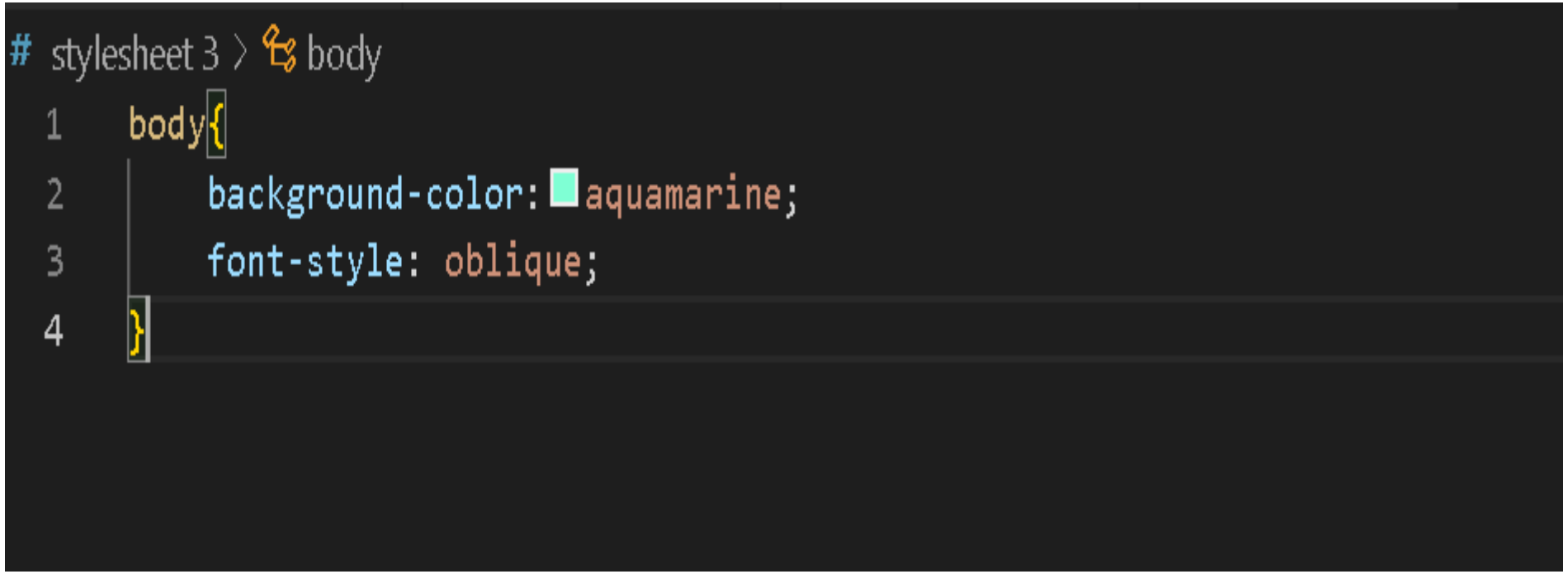
Style sheet 2



output


127.0.0.1:5500/html
This is Purna's Portfolio
Click On My HomePage
Click On My HobbiesPage
Click Here To My Professional Skills

Style sheet 3



output


This is Purna's Portfolio
Click On My HomePage
Click On My HobbiesPage
Click Here To My Professional Skills