BLOCKCHAIN

ASSIGNMENT-1

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BATCH-29

QUESTION-1:

Objective:

To learn blockchain interaction by creating a cryptocurrency

wallet, checking wallet balance, and simulating transactions using

Python and Web3

Requirements:

• Install Python 3.x

• Set up VS Code with Python extension

• Install required Python libraries:

• pip install web3

• Use a test blockchain network (Ethereum Sepolia /

Ganache local blockchain)

• Basic understanding of blockchain wallets and private keys

Practical Description:

Step 1: Environment Setup

• Install Python and VS Code

• Install Web3.py library

• Create a Python file named wallet_interaction.py

Step 2: Wallet and Blockchain Interaction Script

Create a Python script that:

• Connects to a blockchain network

• Loads a wallet using a private key

• Fetches wallet address

• Checks wallet balance

• Demonstrates transaction preparation (without real funds)

Code:

```
import tkinter as tk
my_balance = 10.0
x_balance = 2.0
root = tk.Tk()
root.title("Wallet Simulation")
root.geometry("400x300")

def update_ui():
    my_label.config(text=f"{my_balance:.2f} ETH")
    x_label.config(text=f"{x_balance:.2f} ETH")

def send_money():
    global my_balance, x_balance
    amount_text = entry.get()

    if amount_text == "":
        return

    amount = float(amount_text)
```

```
    if amount <= my_balance:
        my_balance -= amount
        x_balance += amount
        update_ui()
        entry.delete(0, tk.END)

# ---- UI ----
tk.Label(root, text="My Wallet Balance").pack()
my_label = tk.Label(
    root,
    text="0 ETH",
    font=("Arial", 16),
    relief="solid",
    width=20,
    height=2
)
my_label.pack(pady=5)

tk.Label(root, text="X Wallet Balance").pack()
x_label = tk.Label(
    root,
    text="0 ETH",
    font=("Arial", 16),
    relief="solid",
    width=20,
    height=2
)
```

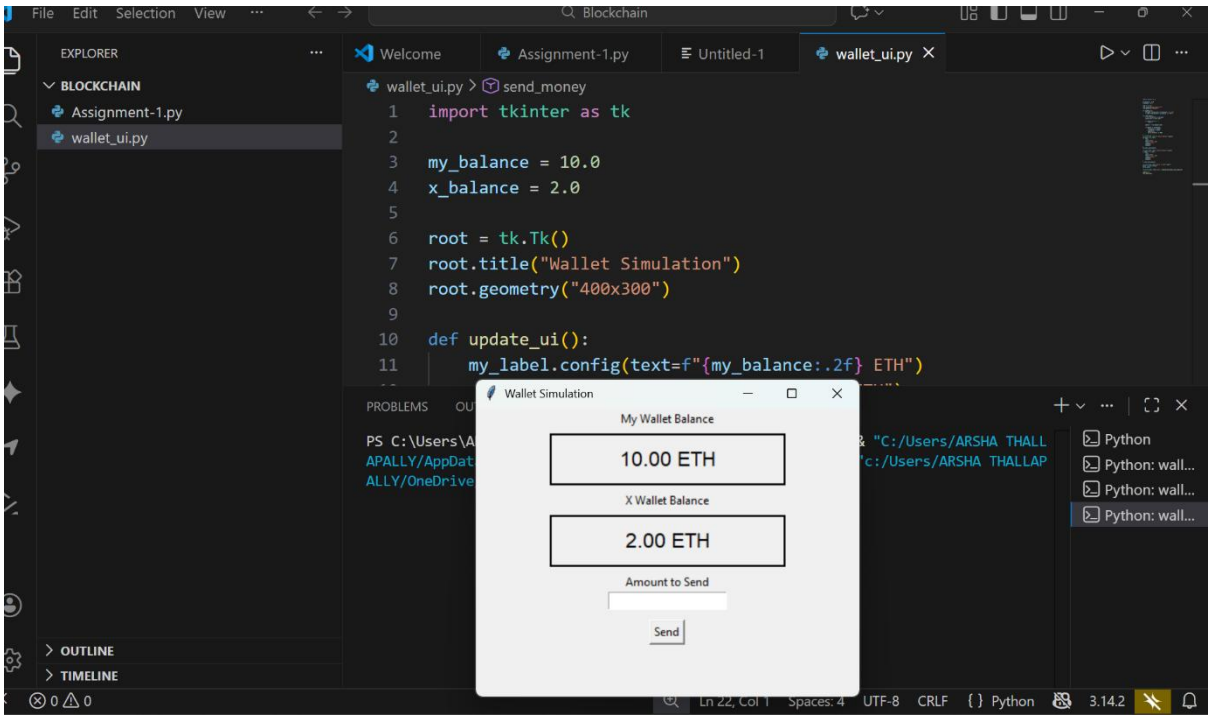
```
x_label.pack(pady=5)

tk.Label(root, text="Amount to Send").pack()
entry = tk.Entry(root)
entry.pack()

tk.Button(root, text="Send", command=send_money).pack(pady=10)

update_ui()
root.mainloop()
```

OUTPUT:



After sending the ETH (3 ETH)to ‘X’ -my wallet remained with 7 ETH