BLOCKCHAIN ASSIGNMENT-1

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BATCH-25

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

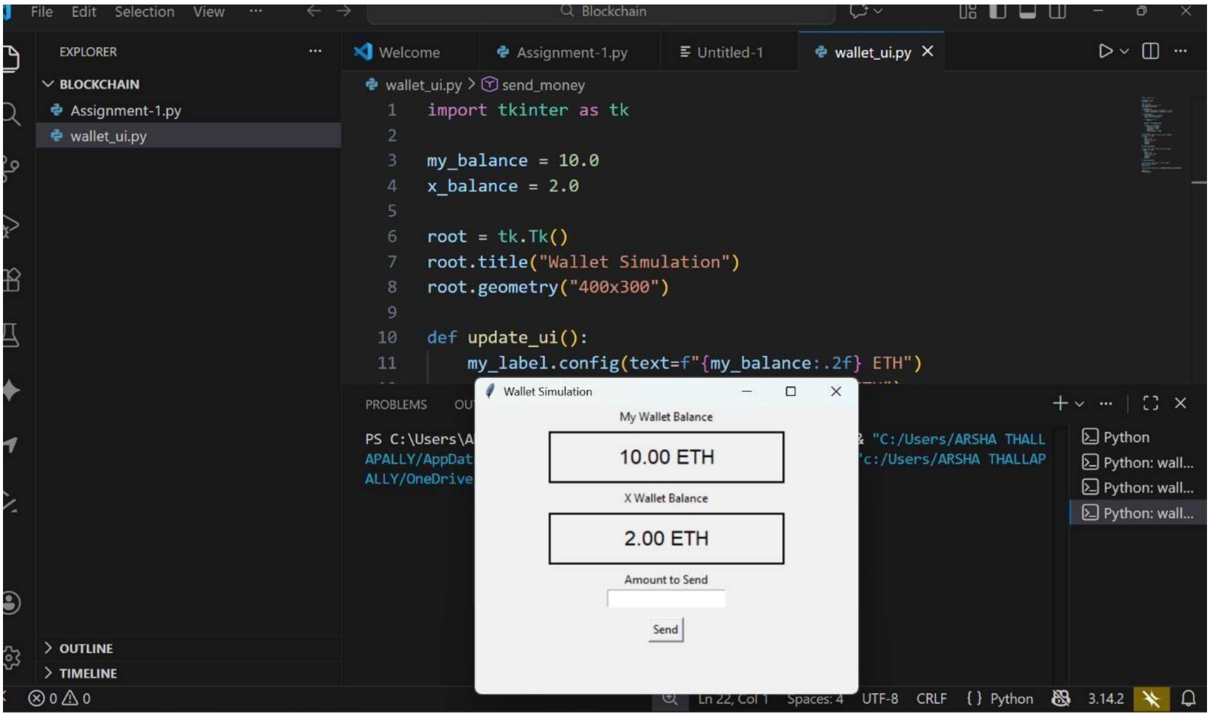
Create a Python script that:

- 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:



```
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")
```

```
PS C:\Users\A                      & "C:/Users/ARSHA THALL
APALLY/AppDat                     'c:/Users/ARSHA THALLAP
ALLY/OneDrive
```

Wallet Simulation

My Wallet Balance

10.00 ETH

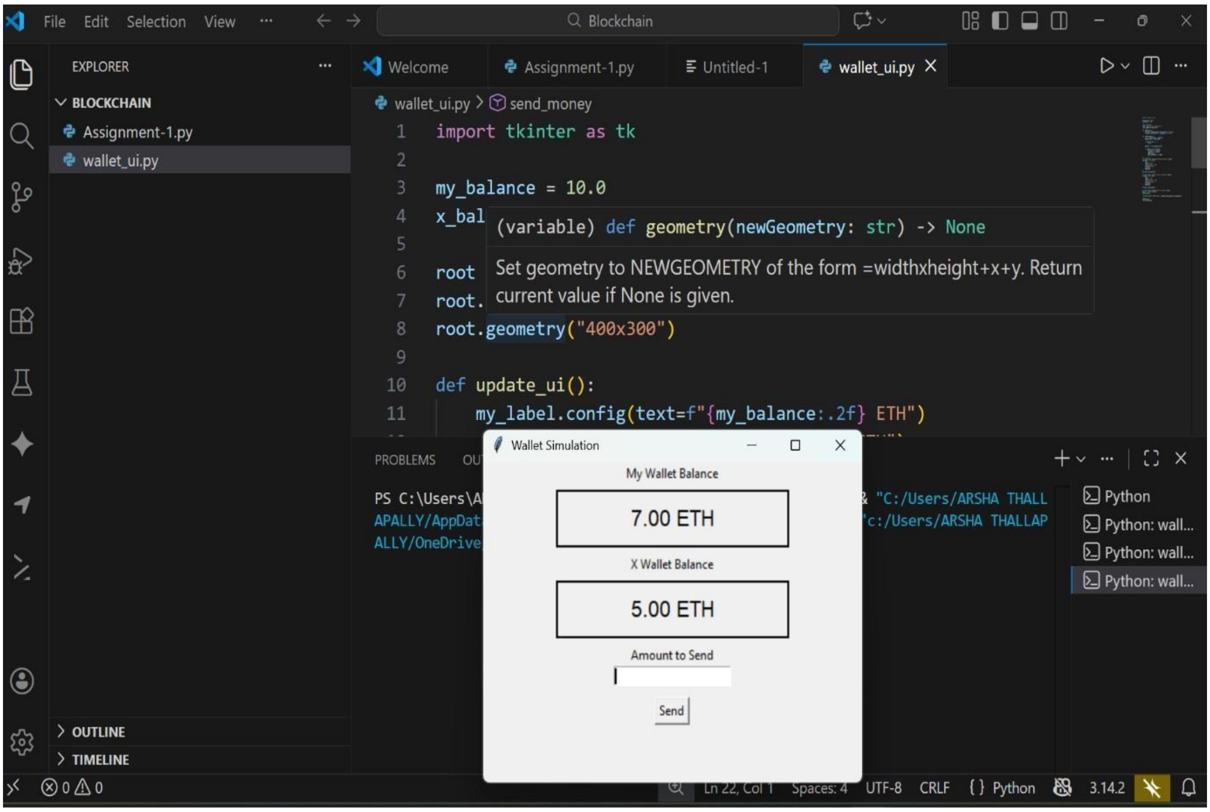
X Wallet Balance

2.00 ETH

Amount to Send

Send

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



```
import tkinter as tk

my_balance = 10.0
x_bal

root
root.
root.geometry("400x300")

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

(variable) def geometry(newGeometry: str) -> None

Set geometry to NEWGEOMETRY of the form =widthxheight+x+y. Return current value if None is given.

```
PS C:\Users\A                      & "C:/Users/ARSHA THALL
APALLY/AppDat                     'c:/Users/ARSHA THALLAP
ALLY/OneDrive
```

Wallet Simulation

My Wallet Balance

7.00 ETH

X Wallet Balance

5.00 ETH

Amount to Send

Send