

**BLOCKCHAIN ASSIGNMENT-1 NAME-N.MOHAN SAI GUPTA
ROLL NO-2303A51502**

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:

The screenshot shows a Visual Studio Code interface with the following details:

- File Explorer:** Shows a tree view with a node for "BLOCKCHAIN" expanded, containing "Assignment-1.py" and "wallet_ui.py".
- Editor:** The "wallet_ui.py" file is open, displaying Python code for a wallet simulation application.
- Terminal:** A terminal window titled "Wallet Simulation" is visible, showing the output of the application's execution.
- Output:** The "PROBLEMS" tab is selected, showing some log entries related to file paths.
- Status Bar:** Displays file path ("C:/Users/ARSHA THALLAPALLY/OneDrive/APALLY/AppData/Local/Temp/"), line number (Ln 22, Col 1), spaces count (Spaces: 4), and other system information.

```
1 import tkinter as tk
2
3 my_balance = 10.0
4 x_balance = 2.0
5
6 root = tk.Tk()
7 root.title("Wallet Simulation")
8 root.geometry("400x300")
9
10 def update_ui():
11     my_label.config(text=f"{my_balance:.2f} ETH")
12
13 update_ui()
```

Output from the terminal:

```
PS C:\Users\ARSHA THALLAPALLY\OneDrive\APALLY\AppData\Local\Temp\
```

The application window titled "Wallet Simulation" displays the following content:

- My Wallet Balance:** A label showing "10.00 ETH".
- X Wallet Balance:** A label showing "2.00 ETH".
- Amount to Send:** An input field for entering the amount.
- Send:** A button to execute the transaction.

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

The screenshot shows a Visual Studio Code (VS Code) interface with the following details:

- File Explorer (Left):** Shows a tree view with a 'BLOCKCHAIN' folder containing 'Assignment-1.py' and 'wallet_ui.py'. The 'wallet_ui.py' file is currently selected.
- Code Editor (Top Right):** Displays the code for 'wallet_ui.py'. The code defines a function 'update_ui()' which configures a label to show the current balance ('my_balance').
- Terminal (Bottom Left):** Shows the command 'PS C:\Users\ARSHATHALLAPALLY\AppData\Local\OneDrive'.
- Output (Bottom Right):** Shows a list of Python tasks.
- Preview (Center):** A modal window titled 'Wallet Simulation' displays two instances of a 'My Wallet Balance' window. Each window shows a balance of '7.00 ETH'. Below the windows is a form with an 'Amount to Send' input field and a 'Send' button.