

ASSIGNMENT

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BATCH : 30

CODE:

```
import tkinter as tk

import hashlib import
time

# Blockchain-style variables
money_received = 0 previous_hash
= "GENESIS_HASH" current_hash =
"GENESIS_HASH"

def generate_hash(amount, timestamp):
    data = f"{amount}{timestamp}{previous_hash}"
    return hashlib.sha256(data.encode()).hexdigest()

def send_money():
    global money_received, previous_hash, current_hash

    try:
        amount = float(entry_amount.get())
    except ValueError:
```

```
label_status.config(text="Enter a valid number!")

return

money_received += amount

previous_hash = current_hash    current_hash =
generate_hash(amount, time.time())

label_received.config(text=f"{money_received} ETH")

label_prev_hash.config(text=previous_hash)
label_curr_hash.config(text=current_hash)

label_status.config(text="Transaction Successful ")    entry_amount.delete(0,
tk.END)

# GUI Window window = tk.Tk()

window.title("Simple Storage Blockchain App")
window.geometry("450x500")

# Heading tk.Label(window, text="SMART STORAGE
BLOCKCHAIN APP",
font=("Arial", 14, "bold")).pack(pady=10)

# Money input tk.Label(window, text="Money to
Send").pack() entry_amount = tk.Entry(window)
entry_amount.pack(pady=5)
```

```
# Button
tk.Button(window, text="Send Money", command=send_money).pack(pady=10)

# Display fields tk.Label(window, text="Received
Money").pack() label_received = tk.Label(window,
text="0 ETH") label_received.pack(pady=5)

tk.Label(window, text="Previous Hash").pack() label_prev_hash =
tk.Label(window, text=previous_hash, wraplength=400)
label_prev_hash.pack(pady=5)

tk.Label(window, text="Current Hash").pack() label_curr_hash =
tk.Label(window, text=current_hash, wraplength=400)
label_curr_hash.pack(pady=5)

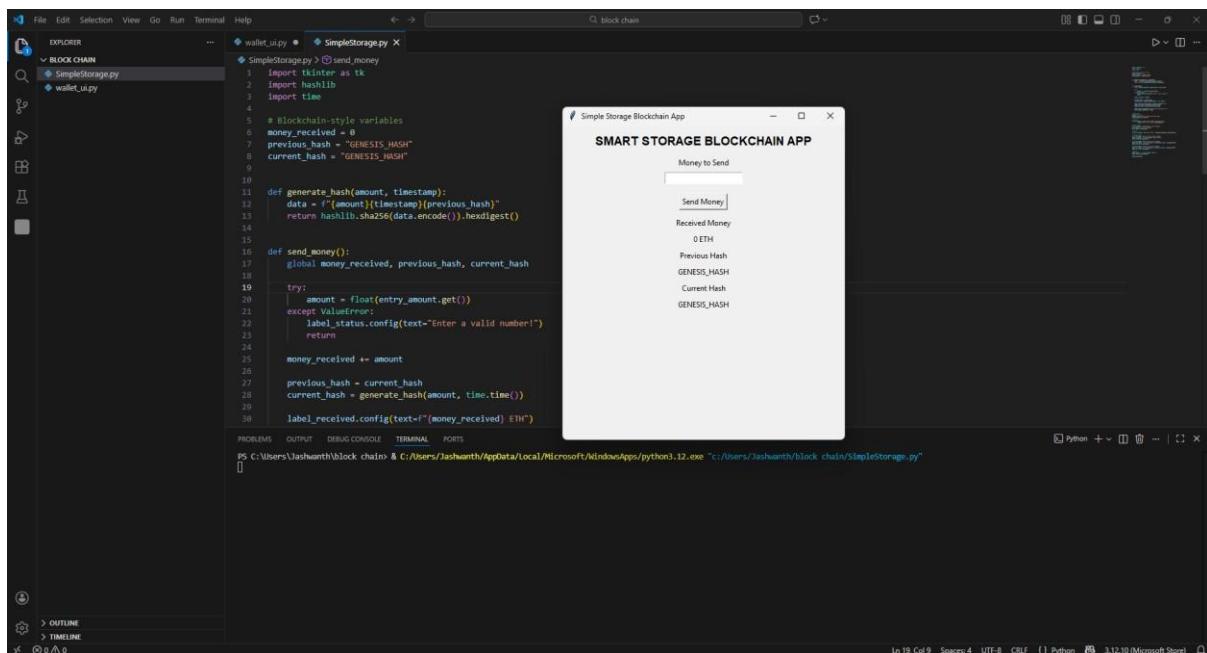
# Status label_status = tk.Label(window,
text="") label_status.pack(pady=10)

window.mainloop()
```

OUTPUT:

```
File Edit Selection View Go Run Terminal Help
EXPLORER SimpleStorage.py wallet_ui.py
BLOCK CHAIN
SimpleStorage.py > send.money
1 import tkinter as tk
2 import hashlib
3 import time
4
5 # Blockchain-style variables
6 money_received = 0
7 previous_hash = "GENESIS_HASH"
8 current_hash = "GENESIS_HASH"
9
10 def generate_hash(amount, timestamp):
11     data = f"{amount}{timestamp}{previous_hash}"
12     return hashlib.sha256(data.encode()).hexdigest()
13
14 def send.money():
15     global money_received, previous_hash, current_hash
16
17     try:
18         amount = float(entry_amount.get())
19     except ValueError:
20         label_status.config(text="Enter a valid number!")
21     return
22
23     money_received += amount
24
25     previous_hash = current_hash
26     current_hash = generate_hash(amount, time.time())
27
28     label_received.config(text=f"(money_received) ETH")
29
30 label_received.config(text=f"(money_received) ETH")
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
PS C:\Users\Jashwanth\block chain> & C:/Users/Jashwanth/AppData/Local/Microsoft/WindowsApps/python3.12.exe "c:/Users/Jashwanth/block_chain/simpleStorage.py"
In 19, Col 9  Spaces: 4  UTF-8  CRLF  Python  3.12.10 (Microsoft Store)

```



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

- Explorer View:** Shows two files: `wallet_ui.py` and `SimpleStorage.py`. `SimpleStorage.py` is currently selected.
- Code Editor:** Displays the `SimpleStorage.py` file content. The code implements a simple blockchain system using Tkinter for a graphical user interface. It includes functions for generating hashes, sending money, and updating the blockchain state.
- Terminal:** Shows the command `PS C:\Users\Jashwanth\block_chain & C:/Users/Jashwanth/AppData/Local/Microsoft/WindowsApps/python3.12.exe "c:/Users/Jashwanth/block_chain/SimpleStorage.py"`.
- Output Panel:** Shows the output of the Python execution, including the transaction hash and a success message.
- Smart Storage Blockchain App Window:** A modal window titled "SMART STORAGE BLOCKCHAIN APP" is displayed. It has a text input field labeled "Money to Send" containing "50000.0 ETH". Below it, it shows "Received Money" and "GENESIS_HASH". A "Send Money" button is present. The status bar at the bottom of the window indicates "Transaction Successful".