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credentials = {}
users_db = {}
passbook = {}
nested_t = {}
import datetime
import random

print("\n" + "~" * 50)
print("\t\tWELCOME TO HDFC BANK")
print("~" * 50 + "\n")
print("How can we assist you today?")

while True:
    print("""
=====
1. Open an Account
2. View Account Details
3. Perform Transactions (Withdraw/Deposit/Transfer)
4. View Transaction History
5. Exit
=====
""")
    choice = int(input("Enter your choice (1-5): "))

    if choice == 1: # Open an Account
        print("\n~~~~~ ACCOUNT REGISTRATION ~~~~~")
        fname = input("Enter First Name: ")
        lname = input("Enter Last Name: ")
        age = input("Enter Age: ")
        city = input("Enter City Name: ")
        pancard = input("Enter Pan Card Number: ")

        if pancard in users_db.keys():
            print("\n⚠ Your Account already exists! Try Again.\n")
            continue

        account_number = "11112222" + ''.join(str(random.randint(0,
9)) for _ in range(4))
        account_type = input("Which type of account would you like to
open? (Current/Savings): ")
        balance = int(input("Enter initial deposit amount: ₹"))

        username = fname + ''.join(str(random.randint(0, 9)) for _ in
range(2))
        password = ''.join(str(random.randint(0, 9)) for _ in
range(4))

        print("\n✅ Account Successfully Created! ✅")
        print(f"✅ Username: {username}")
        print(f"✅ Password: {password}")

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        print(f" Account Number: {account_number}")
        print(f" Initial Balance: ₹{balance}\n")

        credentials[username] = password
        users_db[pancard] = [fname, lname, account_number,
account_type, balance]

    elif choice == 2: # View Account Details
        print("\n~~~~~ VIEW ACCOUNT DETAILS ~~~~~")
        un = input("Enter username: ")
        ps = input("Enter password: ")
        pc = input("Enter pancard: ")

        if un in credentials and ps == credentials[un] and pc in
users_db:
            print("\n Your Account Details:")
            print(f" Account Number: {users_db[pc][2]}")
            print(f" Name: {users_db[pc][0]} {users_db[pc][1]}")
            print(f" Account Type: {users_db[pc][3]}")
            print(f" Balance: ₹{users_db[pc][4]}\n")
        else:
            print("\n Invalid details! Please try again.\n")

    elif choice == 3: # Perform Transactions
        print("\n~~~~~ TRANSACTIONS ~~~~~")
        un = input("Enter username: ")
        ps = input("Enter password: ")
        pc = input("Enter pancard: ")

        if un in credentials and ps == credentials[un] and pc in
users_db:
            print("""
1 Deposit
2 Withdraw
3 Transfer
""")

            t_type = input("Enter transaction type: ").capitalize()

            if t_type == "Deposit":
                t_amount = float(input("Enter deposit amount: ₹"))
                users_db[pc][4] += t_amount
                timestamp = datetime.datetime.now()
                print(f"\n Deposit Successful! New Balance: ₹
{users_db[pc][4]}\n")

            elif t_type == "Withdraw":
                t_amount = float(input("Enter withdrawal amount: ₹"))
                if t_amount > users_db[pc][4]:
                    print("\n Insufficient Balance!\n")
                else:

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        users_db[pc][4] -= t_amount
        timestamp = datetime.datetime.now()
        print(f"\n Withdrawal Successful! Remaining
Balance: ₹{users_db[pc][4]}\n")

    elif t_type == "Transfer":
        r_pancard = input("Enter recipient's PAN card number:
")
        t_amount = float(input("Enter transfer amount: ₹"))
        if r_pancard in users_db and t_amount <= users_db[pc]
[4]:
            users_db[pc][4] -= t_amount
            users_db[r_pancard][4] += t_amount
            timestamp = datetime.datetime.now()
            print(f"\n Transfer Successful! Remaining
Balance: ₹{users_db[pc][4]}\n")
        else:
            print("\n Transfer Failed! Invalid details or
insufficient balance.\n")

    else:
        print("\n Invalid Transaction Type!\n")

    nested_t[timestamp] = [t_type, t_amount, users_db[pc][4]]
    passbook[pc] = nested_t
else:
    print("\n Invalid account details! Please try again.\n")

elif choice == 4: # View Transaction History
    print("\n ~~~~~ TRANSACTION HISTORY ~~~~~")
    un = input("Enter username: ")
    ps = input("Enter password: ")
    pc = input("Enter pancard: ")

    if un in credentials and ps == credentials[un] and pc in
users_db:
        print("\n Transaction History:")
        print("Timestamp          | Type          | Amount  |
Balance")
        print("-" * 50)
        if pc in passbook:
            for timestamp, details in passbook[pc].items():
                print(f"{timestamp} | {details[0]} | ₹{details[1]}
| ₹{details[2]}")
            else:
                print("No transactions found!")
        else:
            print("\n Invalid account details!\n")

    elif choice == 5: # Exit

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        print("\n Thank you for banking with HDFC! Have a great
day! \n")
        print("~" * 50)
        break

    else:
        print("\n Invalid choice! Please select a valid option.\n")
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~~~~~  
WELCOME TO HDFC BANK  
~~~~~

How can we assist you today?

- =====
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- =====

Enter your choice (1-5): 1

~~~~~ ACCOUNT REGISTRATION ~~~~~

Enter First Name: Ayushi  
Enter Last Name: Jain  
Enter Age: 25  
Enter City Name: Jaipur  
Enter Pan Card Number: 2552303  
Which type of account would you like to open? (Current/Savings):  
Savings  
Enter initial deposit amount: ₹ 15000

Account Successfully Created! ☐  
☐ Username: Ayushi65  
☐ Password: 4078  
☐ Account Number: 111122227176  
☐ Initial Balance: ₹15000

- =====
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=====

Enter your choice (1-5): 2

~~~~~ VIEW ACCOUNT DETAILS ~~~~~

Enter username: Ayushi65

Enter password: 4078

Enter pancard: 2552303

□ Your Account Details:

□ Account Number: 111122227176

□ Name: Ayushi Jain

□ Account Type: Savings

□ Balance: ₹15000

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1. Open an Account

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=====

Enter your choice (1-5): 5

□ Thank you for banking with HDFC! Have a great day! □

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