**Exercise 5**

**Aim**

To create a simple banking system using loops, where users can create accounts, deposit money, withdraw money, and check their balance.

**Algorithm**

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| --- | --- | --- |
| Step 1 | **:** | Start the Program. |
| Step 2 | **:** | Display the main menu options. |
| Step 3 | **:** | Get user input for the selected option. |
| Step 4 | **:** | Validate the menu selection. |
| Step 5 | **:** | Create a new Bank Account for the User. |
| Step 6 | **:** | Get the user’s name and initial balance. |
| Step 7 | **:** | Display the list of existing account. |
| Step 8 | **:** | Get user input for the account number to access. |
| Step 9 | **:** | Display account operation options. |
| Step 10 | **:** | Get user input for the selected operation. |
| Step 11 | **:** | Perform the selected operation |
| Step 12 | **:** | Display the result |
| Step 13 | **:** | Stop the Program. |

**Program:**

# Create an empty list to store accounts as dictionaries

accounts = []

# Main program loop

while True:

print("\n--------- Welcome to the ABC Banking System ---------")

print("1. Create a new account")

print("2. Access an existing account")

print("3. Exit")

choice = input("\nEnter your choice (1/2/3): ")

if choice == "1":

# Create account

account\_number = len(accounts) + 1

name = input("Enter your full name: ")

initial\_balance = float(input("Enter the initial deposit amount (Rs.): "))

new\_account = {

"account\_number": account\_number,

"name": name,

"balance": initial\_balance

}

accounts.append(new\_account)

print(f"\nAccount created successfully! Your Account Number is: {account\_number}")

print(f"Initial Deposit: Rs.{initial\_balance:.2f}")

elif choice == "2":

# Access existing account

if len(accounts) == 0:

print("\nNo accounts available. Please create an account first.")

continue

print("\nList of Existing Accounts:")

for account in accounts:

print(f"Account Number: {account['account\_number']}, Name: {account['name']}")

account\_number = int(input("\nEnter your Account Number to access: "))

# Find the account by number

current\_account = None

for account in accounts:

if account['account\_number'] == account\_number:

current\_account = account

break

if current\_account is None:

print("\nInvalid Account Number. Please try again.")

continue

print(f"\nWelcome, {current\_account['name']}!")

while True:

print("\nAccount Options:")

print("A. Check Balance")

print("B. Deposit Money")

print("C. Withdraw Money")

print("D. Back to Main Menu")

account\_choice = input("\nChoose an option (A/B/C/D): ")

if account\_choice == "A":

print(f"\nYour current balance is: Rs.{current\_account['balance']:.2f}")

elif account\_choice == "B":

amount = float(input("\nEnter the amount to deposit (Rs.): "))

if amount > 0:

current\_account['balance'] += amount

print(f"\nDeposited Rs.{amount:.2f}. New balance: Rs.{current\_account['balance']:.2f}")

else:

print("\nInvalid deposit amount. Please enter a positive value.")

elif account\_choice == "C":

print(f"\nYour current balance is: Rs.{current\_account['balance']:.2f}")

# Calculate maximum withdrawal amount (balance - Rs. 500)

max\_withdrawable = current\_account['balance'] - 500

print(f"Maximum amount you can withdraw: Rs.{max\_withdrawable:.2f}")

# Ask for the withdrawal amount

amount = float(input("\nEnter the amount to withdraw (Rs.): "))

if 0 < amount <= max\_withdrawable:

current\_account['balance'] -= amount

print(f"\nWithdrew Rs.{amount:.2f}. New balance: Rs.{current\_account['balance']:.2f}")

else:

print("\nInvalid amount. You must maintain a minimum balance of Rs. 500.")

elif account\_choice == "D":

break

else:

print("\nInvalid option. Please try again.")

elif choice == "3":

print("\nThank you for using our services!")

break

else:

print("\nInvalid choice. Please select a valid option (1/2/3).")

print("Your session has ended. Have a great day ahead!")

**Output**

**Result:**

The program successfully implements a simple banking system that allows users to manage their accounts efficiently