

## TASK-1

### EXPENSE SHARING APP

```
class ExpenseTracker:
```

```
    def __init__(self):
```

```
        self.users = {}
```

```
        self.expenses = []
```

```
    def add_user (self, user_name):
```

```
        if user_name not in self.users:
```

```
            self.users[user_name] = 0
```

```
            print(f"User {user_name} added successfully.")
```

```
        else:
```

```
            print(f"User {user_name} already exists.")
```

```
    def add_expense(self, payer, amount, beneficiaries):
```

```
        if payer not in self.users:
```

```
            print(f"Error: {payer} does not exist.")
```

```
            return
```

```
        total_beneficiaries = len(beneficiaries)
```

```
        if total_beneficiaries == 0:
```

```
            print("Error: must have at least one beneficiary.")
```

```
            return
```

```
        each_share = amount / (total_beneficiaries + 1)
```

```
        self.users[payer] += amount
```

```

    for beneficiary in beneficiaries:

        if beneficiary not in self.users:

            print(f"Error: {beneficiary} does not exist.")

            return

        self.users[beneficiary] += each_share


    self.expenses.append({"payer": payer, "amount": amount, "beneficiaries":
beneficiaries})

    print("Expense added successfully.")


def display_balance(self):

    print("\nUser Balances:")

    for user, balance in self.users.items():

        print(f" {user}: ${balance:.2f}")

    print()


def display_expenses(self):

    print("\nExpense Details:")

    for expense in self.expenses:

        print(f"payer: {expense['payer']}, Amount: ${expense['amount']:.2f}, Beneficiaries:
{expense['beneficiaries']}")

    print()


def main():

    expense_tracker = ExpenseTracker()


    while True:

        print("\nExpense Tracker Menu:")

```

```
print("1. Add User")
```

```
print("2. Add Expense")
```

```
print("3. Display Balances")
```

```
print("4. Display Expenses")
```

```
print("5. Exit")
```

```
choice = input("Enter your choice (1-5): ")
```

```
if choice == "1":
```

```
    user_name = input("Enter user name: ")
```

```
    expense_tracker.add_user(user_name)
```

```
elif choice == "2":
```

```
    payer = input("Enter payer's name: ")
```

```
    amount = float(input("Enter expense amount: "))
```

```
    beneficiaries = input("Enter beneficiaries (comma-seperated): ").split(',')
```

```
    expense_tracker.add_expense(payer, amount, beneficiaries)
```

```
elif choice == "3":
```

```
    expense_tracker.display_balances()
```

```
elif choice == "4":
```

```
    expense_tracker.display_expenses()
```

```
elif choice == "5":
```

```
    print("Exiting Expense Tracker. Goodbye!")
```

```
    break
```

```
else:
```

```
    print("Invalid choice. please enter a number between 1 and 5.")
```

```
if __name__ == "__main__":
```

```
    main()
```

## OUTPUT:

Expense Tracker Menu:

1. Add User

2. Add Expense

3. Display Balances

4. Display Expenses

5. Exit

Enter your choice (1-5): 1

Enter user name: kavi

User kavi added successfully.

Expense Tracker Menu:1. Add User

2. Add Expense

3. Display Balances

4. Display Expenses

5. Exit

Enter your choice (1-5): 2

Enter payer's name: kavi

Enter expense amount: 1000

Enter beneficiaries (comma-seperated): 500

ERROR!

Error: 500 does not exist.

Expense Tracker Menu:

1. Add User
2. Add Expense
3. Display Balances
4. Display Expenses
5. Exit

Enter your choice (1-5): 4

Expense Details:Expense Tracker Menu:

1. Add User
2. Add Expense
3. Display Balances
4. Display Expenses
5. Exit

Enter your choice (1-5): 5

Exiting Expense Tracker. Goodbye!

>