

Assignment 3.2

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class Splitwise:
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```
    def __init__(self, num_pay, num_transac):
        self.n = num_pay
        self.m = num_transac
        self.balance = [0] * n
        self.transac_balance_list = []
        self.j = 0

    def process_transactions(self):
        for _ in range(self.m):
            print("- " * 25)
            transaction_id = input("Enter Transaction id: \n")
            print("- " * 25)
            num_payers, num_splitters = map(int, input("\nEnter how many will pay and split\n").split())

            self.update_balance("Enter the Person ID that will pay and the amount", num_payers, -1)
            self.update_balance("Enter the Person ID and the amount that will be splitted within them", num_splitters, 1)

    def update_balance(self, prompt, count, multiplier):
        print(prompt)
        for _ in range(count):
            person_id, amount = map(int, input().split())
            self.balance[person_id - 1] += multiplier * amount

    def identify_balances(self):
        for i in range(self.n):
            if self.balance[i] > 0:
                current_balance = self.balance[i]
                while current_balance > 0 and self.j < self.n:
                    if self.balance[self.j] >= 0:
                        self.j += 1
                    continue

                min_settlement = min(current_balance, abs(self.balance[self.j]))
                current_balance -= min_settlement
                self.balance[self.j] += min_settlement
                self.transac_balance_list.append([i + 1, self.j + 1, min_settlement])

    def print_balances(self):
        print("- " * 25)
        for transaction in self.transac_balance_list:
            payer_id, payee_id, amount = transaction[0][0], transaction[0][1], transaction[1]
            print(f"({payer_id}) ({payee_id}) {amount}")
```

```
n, m = map(int, input("Enter the amount of person and transaction: ").split())
splitwise_instance = Splitwise(n, m)
splitwise_instance.process_transactions()
splitwise_instance.identify_balances()
splitwise_instance.print_balances()
```

```
Enter the amount of person and transaction: 6 5
- - - - -
Enter Transaction id:
#itsmylife
- - - - -
```

```
Enter how many will pay and split
2 3
Enter the Person ID that will pay and the amount
1 25
3 15
Enter the Person ID and the amount that will be splitted within them
4 10
5 25
6 5
- - - - -
Enter Transaction id:
#itsnow
```

```
- - - - -
Enter how many will pay and split
1 4
Enter the Person ID that will pay and the amount
4 100
Enter the Person ID and the amount that will be splitted within them
1 25
2 25
3 25
4 25
- - - - -
Enter Transaction id:
#ornever
- - - - -
```

```
Enter how many will pay and split
2 2
Enter the Person ID that will pay and the amount
5 30
3 10
Enter the Person ID and the amount that will be splitted within them
1 25
4 15
- - - - -
Enter Transaction id:
#iaintgonna
- - - - -
```

```
Enter how many will pay and split
1 3
Enter the Person ID that will pay and the amount
2 150
Enter the Person ID and the amount that will be splitted within them
1 50
2 50
3 50
- - - - -
Enter Transaction id:
#liveforever
```