

Feature 2: Payment discharge

The payment structure is working well and now we are ready for the next step:
Discharge the paid value from the purchase and withdrawal operation.

The paid value must be discharged from transactions done previously and it can be discharged totally or partially.

Example 1: Transactions

Transaction_ID	Account_ID	OperationType_ID	Amount	Balance	EventDate
1	1	1	-50.0	-50.0	2020-01-01T10:32:07
2	1	1	-23.5	-23.5	2020-01-01T10:48:12
3	1	1	-18.7	-18.7	2020-01-02T19:01:23

Amount is the original transaction value.

The column **balance** holds the current balance of that transaction. When a **payment** occurs the system must **discharge** that **negative balance**. Discharge, in this context, means to subtract the **negative balance** of the transaction with the total or partial value of the **payment**.

Example 2: Transactions

Transaction_ID	Account_ID	OperationType_ID	Amount	Balance	EventDate
1	1	1	-50.0	$(-50+50) = 0.0$	2020-01-01T10:32:07
2	1	1	-23.5	$(-23.5+10) = -13.5$	2020-01-01T10:48:12
3	1	1	-18.7	-18.7	2020-01-02T19:01:23
4	1	4	60.0	$60-(50+10) = 0.0$	2020-01-05T09:34:18

The transaction 2 still has 13.50 to be paid.

While transaction 3 didn't have any changes because the payment amount was not enough to do the discharge.

The transaction 4 is the payment transaction and has the balance 0.0 because it didn't have enough **balance** (was used to the discharge process).

Example 3: Transactions

Transaction_ID	Account_ID	OperationType_ID	Amount	Balance	EventDate
1	1	1	-50.0	0.0	2020-01-01T10:32:07
2	1	1	-23.5	$(-13.5+13.5) = 0.0$	2020-01-01T10:48:12
3	1	1	-18.7	$(-18.7+18.7) = 0.0$	2020-01-02T19:01:23
4	1	4	60.0	0	2020-01-05T09:34:18
5	1	4	100.0	$100-(13.5+18.7) = 67.8$	2020-01-05T12:01:00

In this case, transaction 5 has the **balance** amount of “67.8” because it was possible to discharge all previous negative balances and we still have a positive balance left.

Implement the feature following those business rules.

Feel free to decide if you need more endpoints or if you want to better structure the information.