**1. Transaction Logs**

Below, you see a transaction table where the logs of transactions between accounts are stored. Write a query to return the change in net worth for each user, ordered by decreasing net change.

**Transactions:**

|  |  |  |  |
| --- | --- | --- | --- |
| Sender\_ID | Receiver\_ID | Amount | Transaction\_Date |
| 55 | 22 | 500 | 18.05.2021 |
| 11 | 33 | 350 | 19.05.2021 |
| 22 | 11 | 650 | 19.05.2021 |
| 22 | 33 | 900 | 20.05.2021 |
| 33 | 11 | 500 | 21.05.2021 |
| 33 | 22 | 750 | 21.05.2021 |
| 11 | 44 | 300 | 22.05.2021 |

**Desired Output:**

|  |  |
| --- | --- |
| Account\_ID | Net\_Change |
| 11 | 500 |
| 44 | 300 |
| 33 | 0 |
| 22 | -300 |
| 55 | -500 |

1. *Create above table (transactions) and insert values,*

Answer :

CREATE TABLE Transactions(

Sender\_ID int NOT NULL,

Receiver\_ID int NOT NULL ,

Amount int NOT NULL ,

Transaction\_Date text NOT NULL)

INSERT INTO Transactions (Sender\_ID , Receiver\_ID, Amount, Transaction\_Date)

VALUES('55', '22', '500', '18-05-2021');

INSERT INTO Transactions (Sender\_ID , Receiver\_ID, Amount, Transaction\_Date)

VALUES('11', '33', '350', '19-05-2021');

INSERT INTO Transactions (Sender\_ID , Receiver\_ID, Amount, Transaction\_Date)

VALUES('22', '11', '650', '19-05-2021');

INSERT INTO Transactions (Sender\_ID , Receiver\_ID, Amount, Transaction\_Date)

VALUES('22', '33', '900', '20-05-2021');

INSERT INTO Transactions (Sender\_ID , Receiver\_ID, Amount, Transaction\_Date)

VALUES('33', '11', '500', '21-05-2021');

INSERT INTO Transactions (Sender\_ID , Receiver\_ID, Amount, Transaction\_Date)

VALUES('33', '22', '750', '21-05-2021');

INSERT INTO Transactions (Sender\_ID , Receiver\_ID, Amount, Transaction\_Date)

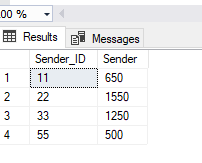
VALUES('11', '44', '300', '22-05-2021');

1. Sum amounts for each sender (debits) and receiver (credits),

select Sender\_ID, SUM (Amount) As Sender

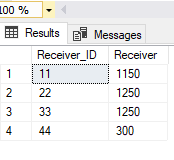
from Transactions

group by Sender\_ID;



select Receiver\_ID, SUM (Amount) As Receiver

from Transactions

group by Receiver\_ID

1. Full (outer) join debits and credits tables on account id, taking net change as difference between credits and debits, coercing nulls to zeros with coalesce()

SELECT COALESCE(S.Sender\_ID, R.Receiver\_Id) AS Acount\_ID ,(COALESCE(R.Receiver,0)-COALESCE(S.Sender,0)) AS Net\_Change

FROM (select Sender\_ID, SUM (Amount) As Sender from Transactions group by Sender\_ID) AS S

FULL OUTER JOIN (select Receiver\_ID, SUM (Amount) As Receiver from Transactions group by Receiver\_ID) AS R On S.Sender\_ID=R.Receiver\_ID

Order BY Net\_Change DESC;

