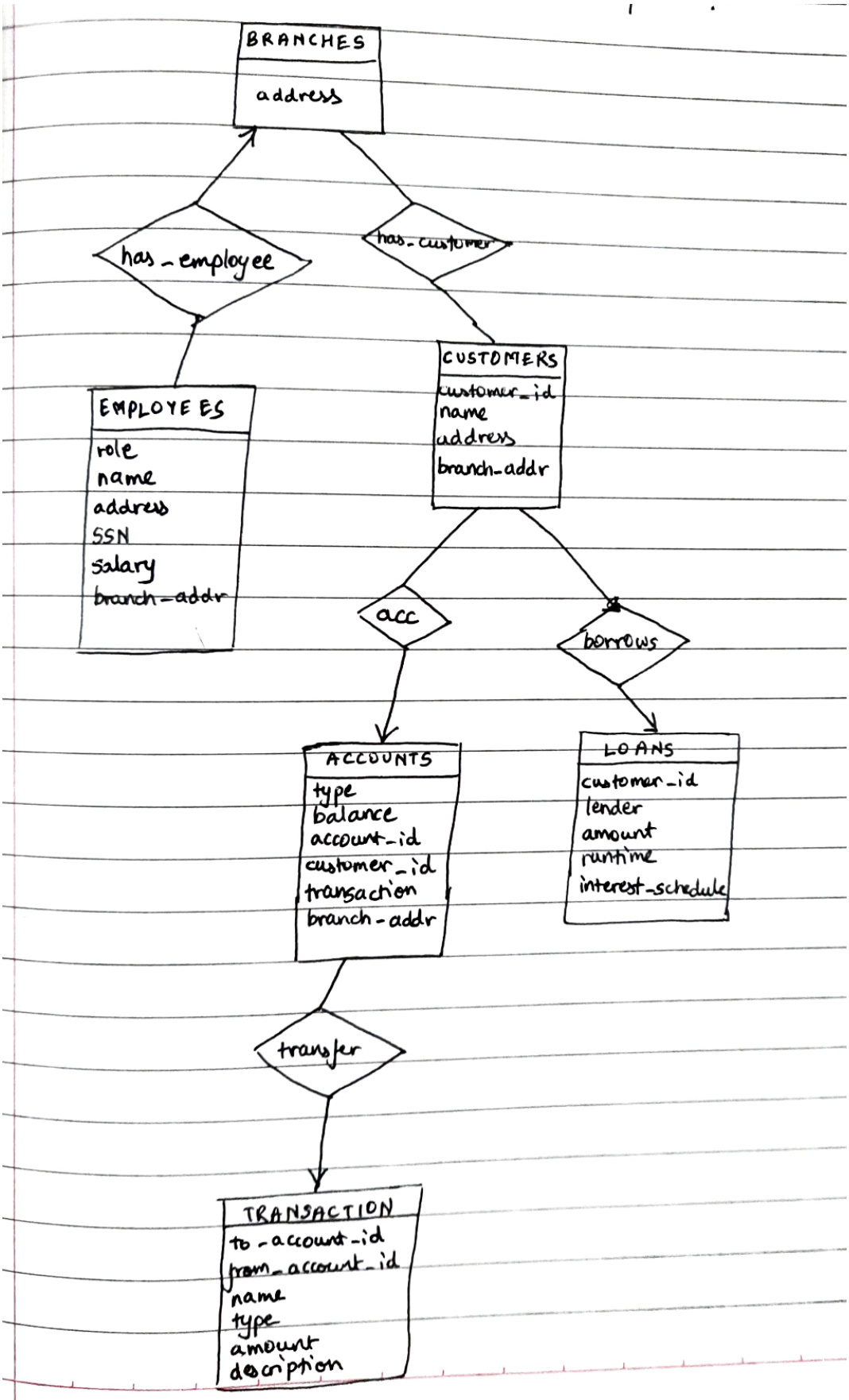
BRANCHES
address
has_employee
has_customer
EMPLOYEES
role
name
address
SSN
salary
branch_addr
CUSTOMERS
customer_id
name
address
branch_addr
acc
borrows
ACCOUNTS
type
balance
account_id
customer_id
transaction
branch_addr
LOANS
customer_id
lender
amount
runtime
interest_schedule
transfer
TRANSACTION
to_account_id
from_account_id
name
type
amount
description

1. Translate strong entities + unnest composite attributes
2. Translate weak entities
3. Translated multi-valued attributes
4. Translate relationships

1st step (Strong entities):

```
CREATE TABLE branches (
        branch_address VARCHAR PRIMARY KEY
);
CREATE TABLE employees (
        ssn NUMERIC PRIMARY KEY
        role VARCHAR
        name VARCHAR
        emp_address VARCHAR
        salary NUMERIC
        branch_addr VARCHAR
        FOREGIN KEY branch_addr REFERS branches
);
CREATE TABLE customers(
        customer_id VARCHAR PRIMARY KEY
        name VARCHAR
        ctmr_address VARCHAR
        branch_addr VARCHAR
        FOREGIN KEY branch_addr REFERS branches
);
CREATE TABLE accounts(
        account_id VARCHAR PRIMARY KEY
        type VARCHAR
        balance NUMERIC
        customer_id VARCHAR
        transaction NUMERIC
        branch_addr VARCHAR
        FOREGIN KEY branch_addr REFERS branches
        FOREGIN KEY customer_id REFERS customers
);
```

2nd Step (Weak Entities):

```
CREATE TABLE loan(
        customer_id VARCHAR
        lender VARCHAR
```

```
        amount NUMERIC
        runtime VARCHAR
        interest_schedule VARCHAR
        FOREGIN KEY customer_id REFERS customers
);
CREATE TABLE transaction(
        to_account_id VARCHAR
        from_acoount_id VARCHAR
        name VARCHAR
        type VARCHAR
        amount NUMERIC
        description VARCHAR
        FOREGIN KEY to_account_id REFERS accounts
        FOREGIN KEY from_account_id REFERS accounts
);
CREATE TABLE branches.branch_address(
        id INT
           NOT NULL
           PRIMARY KEY,
        Address1 VARCHAR(120) NOT NULL,
        Address2 VARCHAR(120),
        Address3 VARCHAR(120),
        City VARCHAR(100) NOT NULL,
        State CHAR(2) NOT NULL,
        Country CHAR(2) NOT NULL,
        PostalCode VARCHAR(16) NOT NULL
);
CREATE TABLE emp_address(
        id INT
           NOT NULL
           PRIMARY KEY,
        Address1 VARCHAR(120)
                    FOREIGN KEY REFERENCES branch_address(id)
                    NOT NULL,
        Address2 VARCHAR(120),
        Address3 VARCHAR(120),
        City VARCHAR(100) NOT NULL,
        State CHAR(2) NOT NULL,
        Country CHAR(2) NOT NULL,
        PostalCode VARCHAR(16) NOT NULL
```

```
);
CREATE TABLE ctmr_address(
        id INT
           NOT NULL
           PRIMARY KEY,
        Address1 VARCHAR(120)
                    FOREIGN KEY REFERENCES branch_address(id)
                    NOT NULL,
        Address2 VARCHAR(120),
        Address3 VARCHAR(120),
        City VARCHAR(100) NOT NULL,
        State CHAR(2) NOT NULL,
        Country CHAR(2) NOT NULL,
        PostalCode VARCHAR(16) NOT NULL
);
```

(We added an additional table/s for addresses to make our solution more optimal)