# A S S I G N M E N T   3

*Due on next week*

A small banking enterprise uses a database to manage the accounts of their clients. The bank is divided into local branches, identified by unique branch codes. Accounts belong to a specific branch and are identified by account numbers that are unique within that branch. An account can be shared by several clients, and the only other information necessary to store is the account balance. For clients, the bank stores their national ID number, full name, as well as a contact address and phone number. The schema they use for their database is as follows:

Client(<u>NID</u>, name, address, phoneNumber)
Account(<u>branchCode, accountNumber, NID</u>, branchName, balance)

a. Identify all functional dependencies that are expected to hold.

b. With the dependencies you have found, identify all BCNF violations in the relations of the database.

c. Normalize the schema to BCNF.