Normalization

CUSTOMER

1NF: CUSTOMER is not in 1NF because it has the Multivalued Attribute phone\_number. This should be eliminated by dividing it into the following relations:

CUSTOMER (customer\_ID, last\_name, first\_name, address, gender)

CUSTOMERPHONE (customer\_ID, phone\_number)

2NF: Both relations are in 2NF, in relations CUSTOMER AND CUSTOMER PHONE all attributes partially depend on the primary key customer\_ID

3NF: Both relations are in 3NF as there are the nonprime attributes last\_name, first\_name, address and gender have transitive dependency on the primary key, customer\_ID.

BCNF: Both relations are in BCNF.

CAR

1NF: CAR is 1NF

2NF: CAR is in 2NF

3NF: CAR is not in 3NF because nonprime attribute model depends on nonprime attribute make. To make CAR 3NF this should be eliminated by the following:

CAR (car\_id, make, year)

CARTYPE (make, model)