Problem 1

1. Below is the screenshot of the logical model and the relational model.
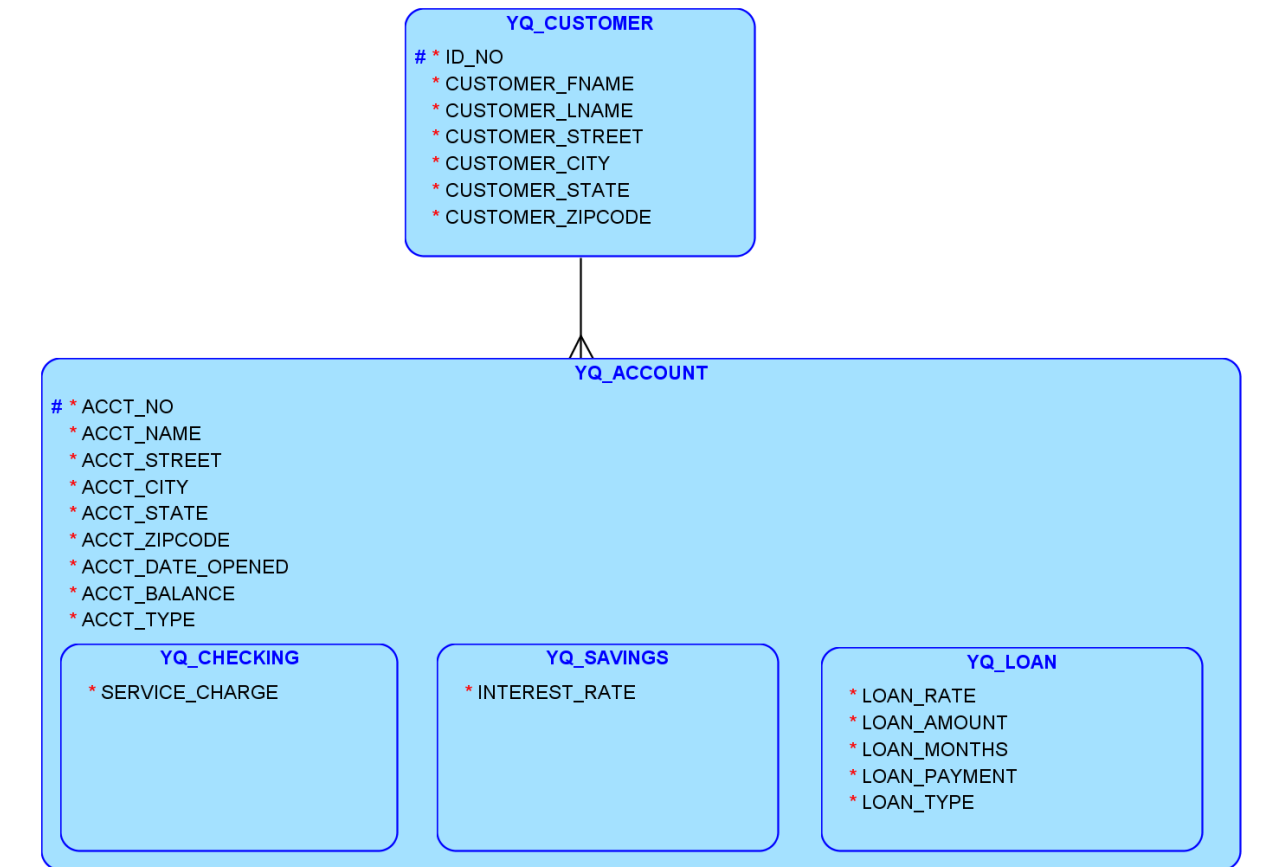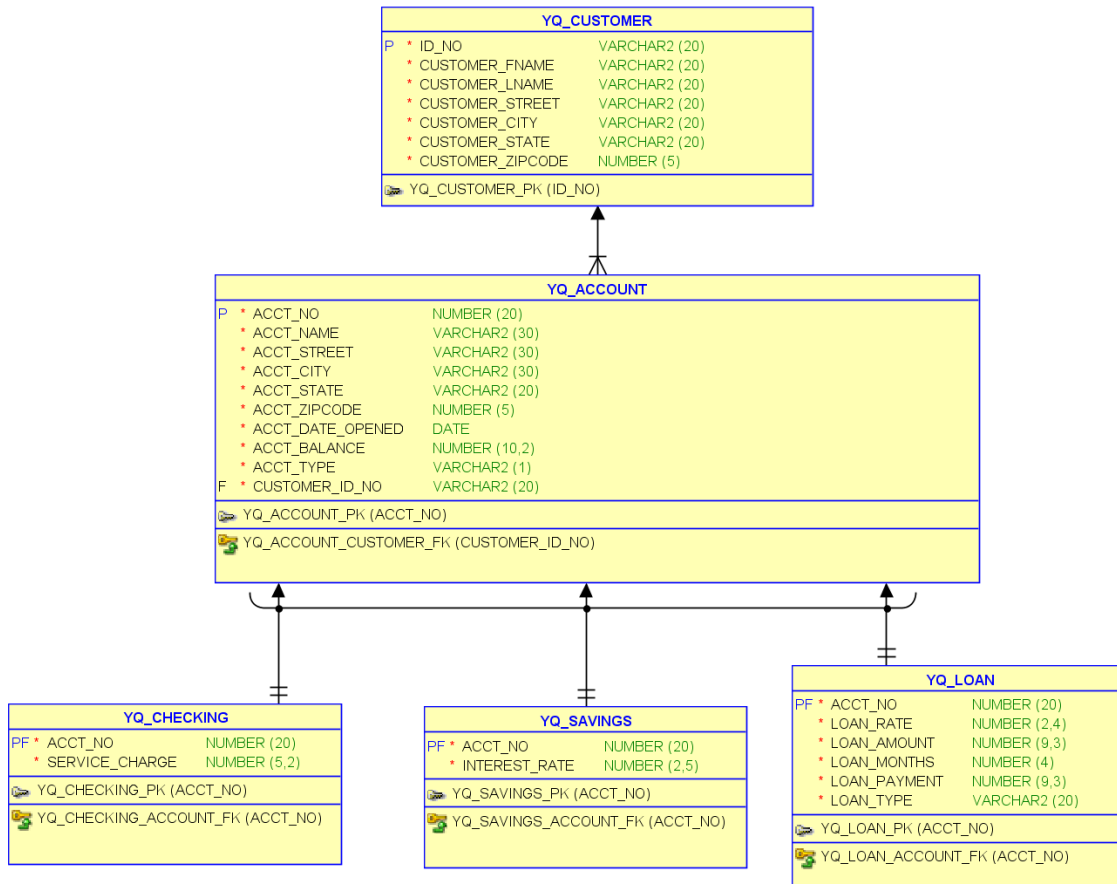

Figure 1. The logical model of this problem.

Figure 2. The relational model of this problem.

2. Here are some possible assumptions:

(a) A customer can have multiple accounts in different types.

(b) A customer must provide his own ID when he wants to create an account.

(c) Every kind of account should also have an attribute "BALANCE" indicating the current available balance of the account.

Problem 2

1. Below is the screenshot of the logical model and the relational model.

YQ_SHIP
* SHIP_NO

YQ_CAPTAIN
* CAPTAIN_NO
* CAPTAIN_FNAME
* CAPTAIN_LNAME

YQ_SHIP_CAPTAIN_SHIPMENT

YQ_SHIPMENT
* SHIPMENT_ID
* SHIPMENT_DATE
* SHIPMENT_ARRIVE_DATE
* SHIPMENT_FROM
* SHIPMENT_TO

YQ_PART_ORDERLINE
* ORDER_QTY
* TOTAL_WEIGHT

YQ_PART
* PART_NO
* PART_NAME
* PART_TYPE
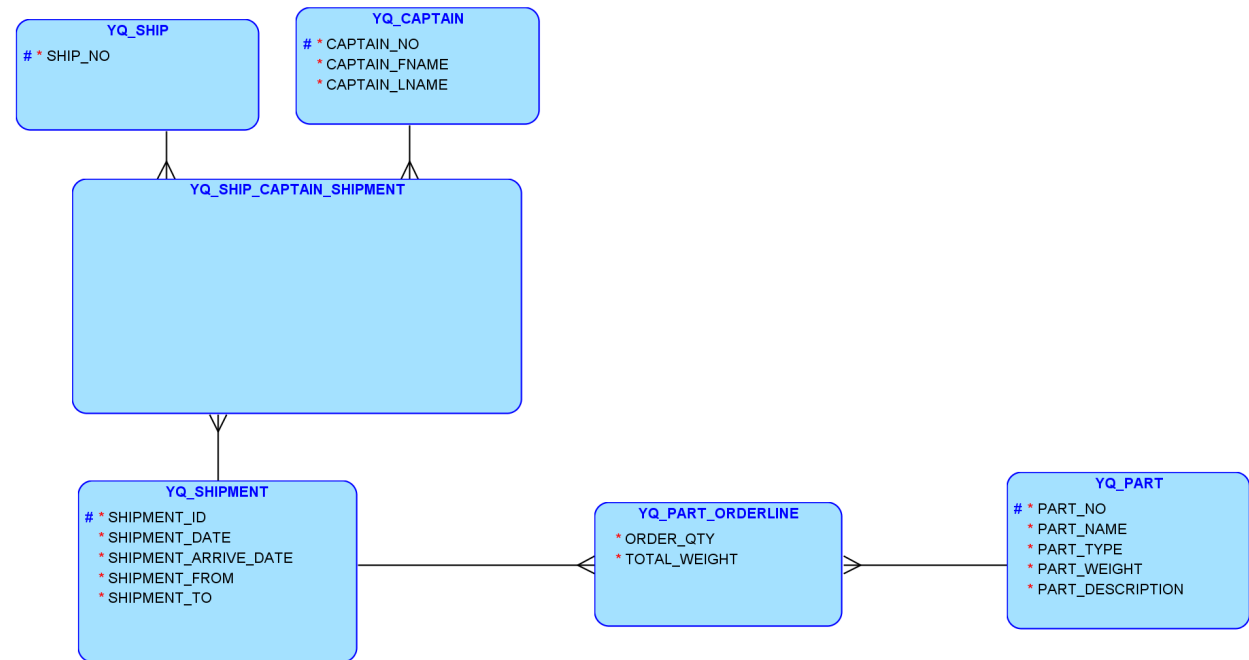* PART_WEIGHT
* PART_DESCRIPTION
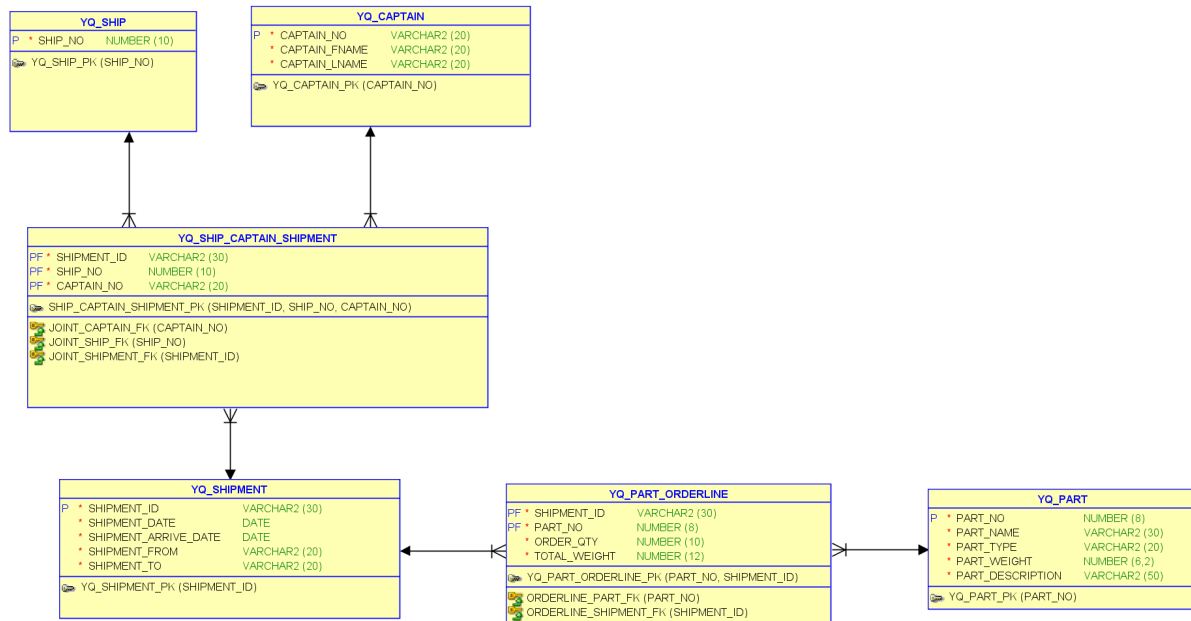
Figure 3. The logical model of this problem.

Figure 4. The relational model of this problem.

2. Here are some possible assumptions:

   (a) For one time navigation, a captain is assigned to a ship.

   (b) For one time navigation, a ship may carry multiple shipments at the same time.

   (c) The attribute "TOTAL WEIGHT" is a derived attribute since it can be calculated by multiplying the weight of each part and the corresponding quantity.