

## **CME 4413 HOMEWORK-1**

Due: 24.10.2016

1- Design an ER schema for the following application, and draw an ER diagram for that schema. Specify key attributes of each entity type and structural constraints on each relationship type. Note any unspecified requirements, and record any assumptions to make the specification complete.

2- Draw a class diagram, showing the relevant classes, attributes, operations, and relationships for the following situation (if you believe that you need to make additional assumptions, clearly state them):

ZÜMRÜT Antika buys and sells one-of-a-kind antiques of all kinds. Each item is uniquely identified by an item number and is also characterized by a description, asking price, condition, and open ended comments. ZÜMRÜT Antika works with many different individuals called clients, who sell items to and buy items from the store. Some clients only sell items to ZÜMRÜT Antika, some only buy items, and others both sell and buy. A client is identified by a client number, and is also described by client name, and client address. When ZÜMRÜT Antika sells an item in stock to a client, the owner wants to record the commission paid, the selling price, sales tax and date sold. When ZÜMRÜT Antika buys an item from a client, the owner wants to record the purchase cost, the date purchased and condition at the time of purchase.

ZÜMRÜT Antika also tracks information about various banks that they work with. Bank information includes the name of the bank and the name of the contact at the bank with a phone number. Each item is appraised (value is determined) by the bank. The appraisal is good for 1 year, so when an item is appraised by the bank, an expiry date is recorded. New appraisals are completed once the previous appraisal expires.