



**Due Date: Thursday, 17<sup>th</sup> June 2021**

**University of Engineering & Technology, Peshawar  
Dept. of Computer Systems Engineering**

**Database Management Systems – Spring 2021**

**Assignment No. 1**

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### **PROBLEMS & EXERCISES**

1. **DBMS PROJECT:** Submit the complete conceptual schema of your DBMS project including following:
  - a. Entity Description (Tabular form)
  - b. Detailed Business Rules (Textual)
  - c. Entity-Relationship Diagram (ERD)
  - d. Enhanced Entity-Relationship Diagram (EERD) (if required)

2. For the given scenario, draw the **Enhanced ER Diagram (EERD)** showing supertype-subtype entities, primary keys, and attributes. Include a subtype discriminator.

A bank has three types of accounts: checking, savings, and loan. Following are the attributes for each type of account:

- CHECKING: Acct No, Date Opened, Balance, Service Charge
- SAVINGS: Acct No, Date Opened, Balance, Savings Interest Rate
- LOAN: Acct No, Date Opened, Balance, Loan Interest Rate, Payment

Assume that each bank account must be a member of exactly one of these subtypes. Using generalization, develop an EERD to represent this situation. Remember to include a subtype discriminator.

3. Draw the **Relational Schema** for the EERD given in Figure 1.1.

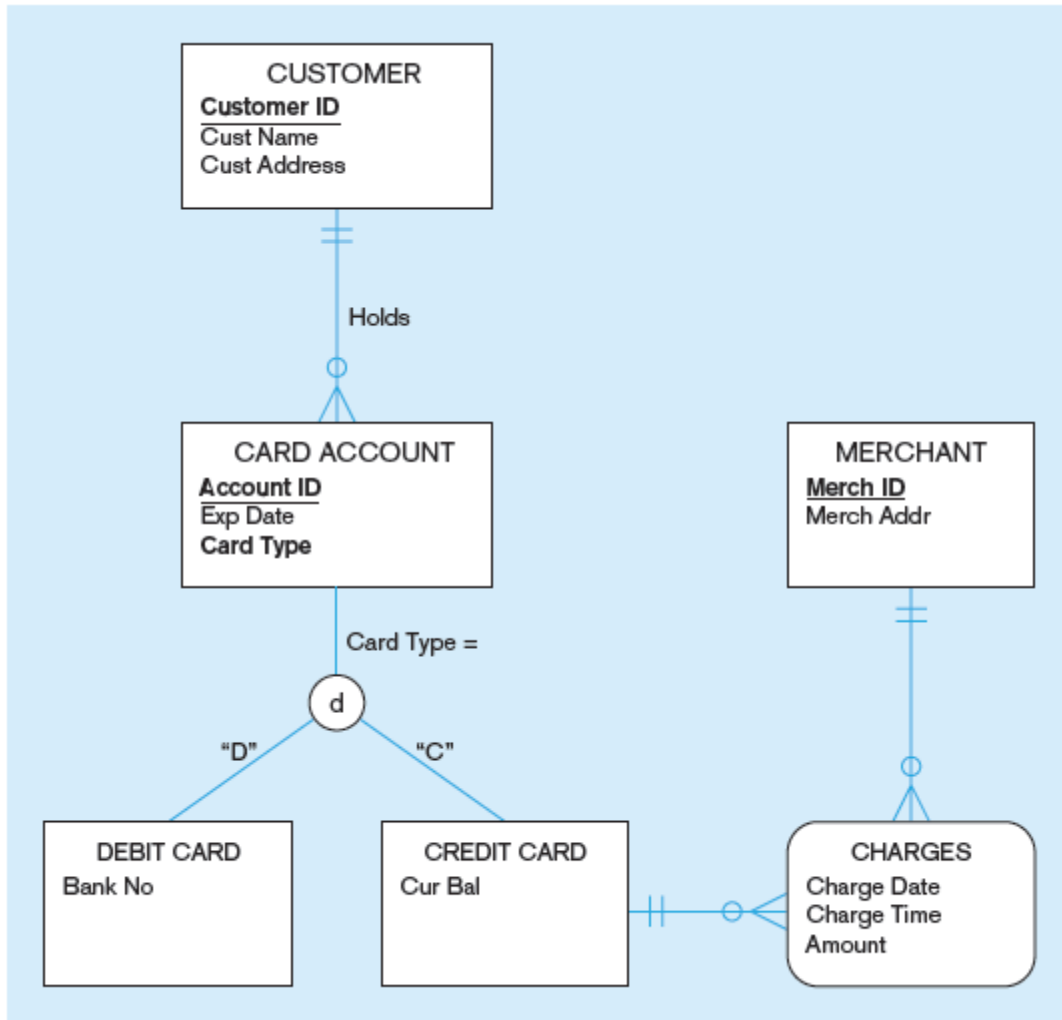


Figure 1.1 – EERD for Bank Cards

*Good Luck*