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IT2040 DMS Lab 02

Exercise 1 – Map the EER to Relational Schema

Bank(code, registration, name)



Branch(code,branchNo,address)



Account(acctNo, balance, branchNo,AcctType code)



Transactions(transId, amount, date&time, executed\_by, description)



**Acc.has.trans(accountNo, transId, type)**



Customer(number, NIC, name, address, phone, pin)



**Belongs\_to(accountNo, number)**



AccountType(code,name,interest\_rate,maxCheques,type)



1. How many relations did you get in your relational schema after mapping ? **8**
2. What is the primary key of the branch relation? **Code, branchNo**
3. What mapping option did you use to map the entity ‘Account Type’ and its sub classes? Why did you select the option you selected?

**Option 3 was chosen because, according to the question, its under the default partial participation and disjointed. Leaving option 2 out of the consideration**

**Sub classes are not involved in any relationship. Therefore option 1 is unnecessary**

**Parent class has majority of the attributes covering the situation.**

**Overlapping constraint is not a problem and therefore the usage of option 4 is redundant**

1. How many tables refer to the AccountNo attribute in Accounts Table? Whata are the relations that refer to AccountNo as foreign Key?

**2 relations.**

**Account has Transactions, Account Belongs to Customer**

Exercise 2

Map the EER model given(Which is bonkers)

Optimal ISA Items – Option 2



Optimal ISA Books – Option 1



Optimal ISA Periodicals – Option 3 \*\* Since there is no condition of Overlapping



Optimal ISA Copy of Items – Option 1



Author(authorId, fname, lname, other)

WrittenBy(authorId, itemNo)

Books(itemNo, title, description)

TextBook(itemNo, semester, year, section)

PublishedBooks(itemNo, edition)

PublishedBookType(ISBN, cover, yearPublished, publisher,itemNo)

Periodicals(itemNo, title, description, frequency, publisher, type)

PeriodicalType(itemNo, date)

Software & Manuals(itemNo, title, description, version, manufacturer)

Members(libraryId, name, location, phone, email, address, password, remarks) \*\* Composite attributes have been limited

MemberType(type, libraryId)

Loan(libraryId, accessNo, finepaid,fine, datetime\_borrowed, datereturned, datetime)

Payment(payId, amount, date)

Pay(payId, libraryId, accessNo)

CopyofItems(accessNo, status)

C-software&Manuals(accessNo,itemNo)

C-publishedBooks(accessNo, ISBN)

C-text(accessNo, itemNo)

C-PeriodicalTypes(accessNo, itemNo, date)

What is the primary key of ‘PeriodicalType’ table? **itemNo, date**

What are the foreign keys for the ‘PublishedBookType’ ? **BookitemNo**

What is the foreign key for the C-periodical type ? **itemNo, date**

What are the attributes of the pay table ? **Pay(payId, libraryId, accessNo)**