

Initial Translation

BANK

<u>Code</u>	Name	Addr
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BANK_BRANCH

Addr	<u>Branch_no</u>	<u>Code</u>
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ACCOUNT

Acct_no	Balance	Type
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LOAN

Loan_no	Amount	Type
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CUSTOMER

Phone	Ssn	Name	Addr
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Translation of Relationships

The minimal storage relationship is italicized

BRANCHES options

Because BANK_BRANCH only has a weak key the Branches relationship is implicitly created when we give the BANK_BRANCH table a Code attribute as a Foreign Key Reference (FKR) to BANK.Code

ACCTS options

- 1) Add Acct_no attribute to BANK_BRANCH schema as FKR to ACCOUNT.Acct_no
- 2) *Add Branch_no and Code attributes to ACCOUNT schema as FKR to BANK_BRANCH.Branch_no and BANK_BRANCH.Code*
- 3) Create a new table, ACCCTS, that holds FKRs to the keys of the BANK_BRANCH table and the ACCOUNT table

LOANS options

- 1) Add Loan_no attribute to BANK_BRANCH schema as FKR to LOAN.Loan_no
- 2) *Add Branch_no and Code attributes to LOAN schema as FKR to BANK_BRANCH.Branch_no and BANK_BRANCH.Code*
- 3) Create a new table, LOANS, that holds FKRs to the keys of the BANK_BRANCH table and the LOAN table

A_C options

- 1) Add Ssn attribute to ACCOUNT schema as FKR to CUSTOMER.Ssn
- 2) Add Acct_no attribute to CUSTOMER schema as FKR to ACCOUNT.Acct_no
- 3) *Create a new table, A_C, that holds FKRs to the key of the ACCOUNT table and the CUSTOMER table.*

L_C options

- 1) Add Ssn attribute to LOAN schema as FKR to CUSTOMER.Ssn
- 2) Add Loan_no attribute to CUSTOMER schema as FKR to LOAN.Loan_no
- 3) *Create a new table, L_C, that holds FKRs to the key of the LOAN table and the CUSTOMER table.*

Minimal Storage Implementation

BANK

<u>Code</u>	Name	Addr
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BANK_BRANCH

Addr	<u>Branch_no</u>	<u>Code</u>
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ACCOUNT

<u>Acct_no</u>	Balance	Type	Branch_no	Code
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LOAN

<u>Loan_no</u>	Amount	Type	Branch_no	Code
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CUSTOMER

Phone	<u>Ssn</u>	Name	Addr
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A_C

<u>Customer_ssn</u>	<u>Acct_no</u>
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L_C

<u>Customer_ssn</u>	<u>Loan_no</u>
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