नमः शिवाय

Foreign Key , Partial Key , Secondary Key (Used for Indexing)

① Student (Roll , Name, Sex, Age) — Primary Key

② Department (Deptno. , Deptname)

③ Faculty (Fno. , Fname, Fage, Deptno.) — Deptno. : Foreign Key

④ Employee (Eno. , Ename, Age, Sex , Address)

⑤ Dependent (Eno , Dependentname, relation)

Eno : Partial Key

Library

- Subject Name
- Author Name
- - - -

Secondary Key

There must be different catalog for Indexing purpose.

X X

***

	Unique	Not Updatable	Null	
Unique Key	✓	✓	✓	Ex UID
Surrogate Key	✓	X	X	Ex Mobile No.

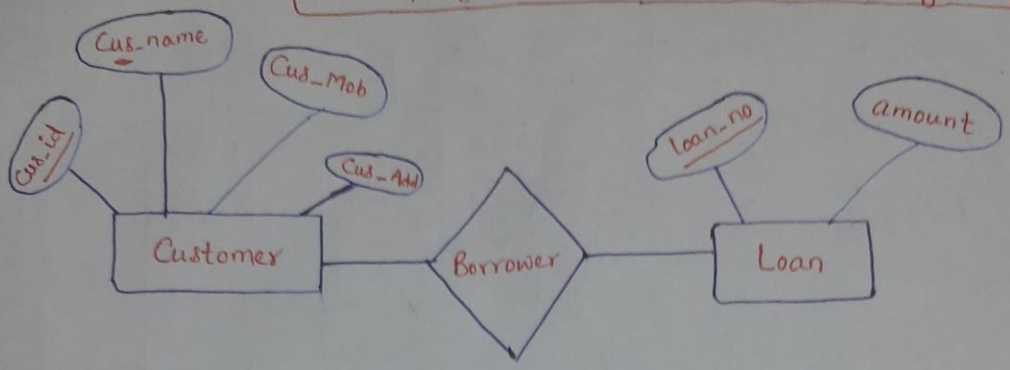
▣ Composite Key :–

Student (Roll , Section , Class , Name , Age , Address)

**

Constraint: Primary Key can not be Null .
: Can not Update .

Mapping Cardinalities in E-R Diagram



Bank Policies : Depends upon Arrows in your E-R Model

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* Many - to - Many

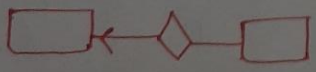
Multiple parallel group loans / Personal loan

* Many - to - One

Non parallel group loan / Personal loan

* One person can't enjoy more than one loan.

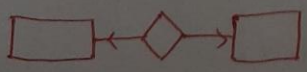
* One - to - Many



Multiple parallel personal loan

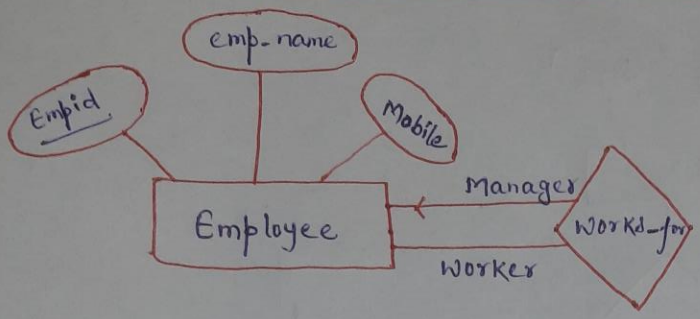
* Group loan not allowed.

* One - to - One

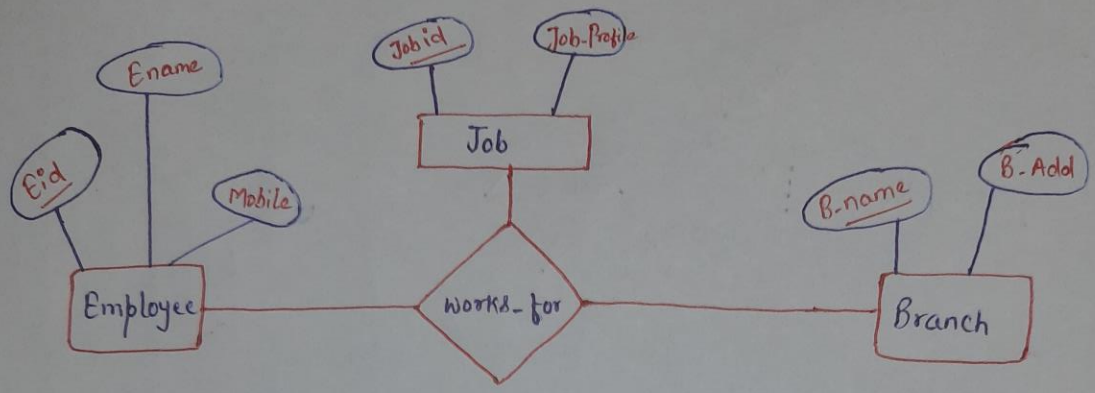


* one person is allowed one personal loan at a time.

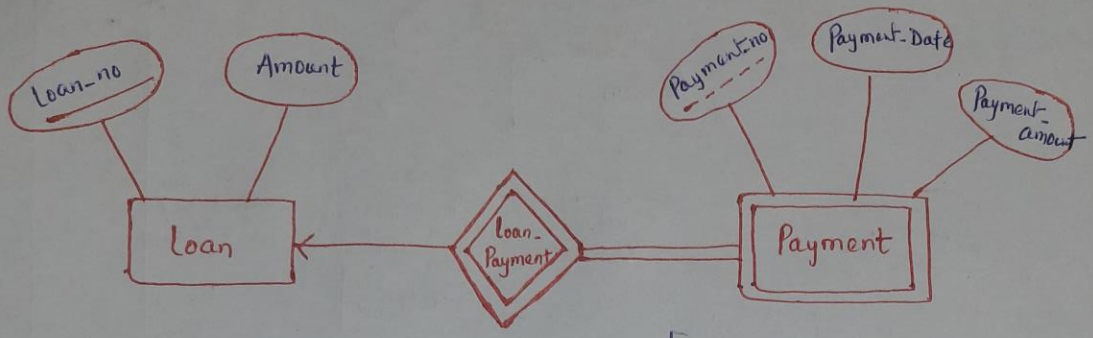
E-R Diagram with Role Indicators



[E-R Diagram with Ternary Relationship]



Weak Entity Set with total Participation



Ex

L1	2,00,000
L2	5,00,000
L3	3,00,000

One Deposit Slip

007	18/01	10000
007	18/01	10000
007	18/01	10000

Second Deposit Slip

109	11/02	7000
109	11/02	7000
109	11/02	7000

(*) Loan (loan_no , amount)

Merging (*) Loan_payment (Loan_number , payment_no , payment_date , payment_amount)

⇓

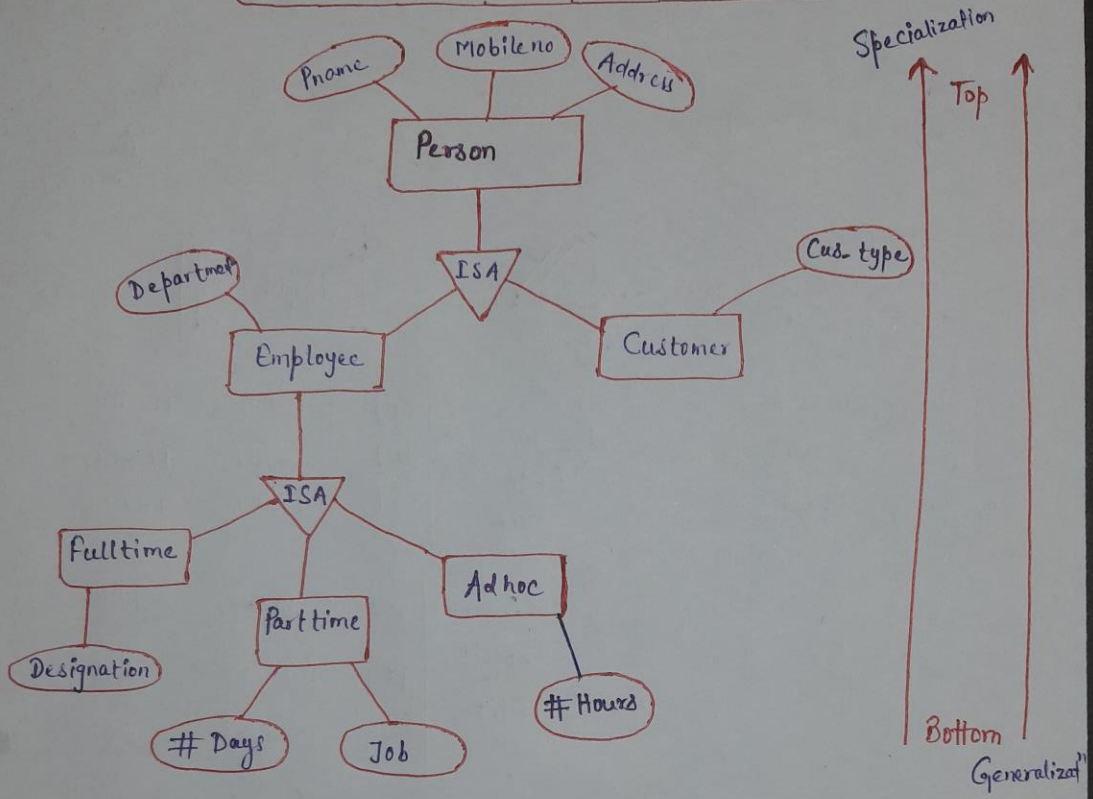
Now it is Strong Entity Set.

Think

It will be unique always

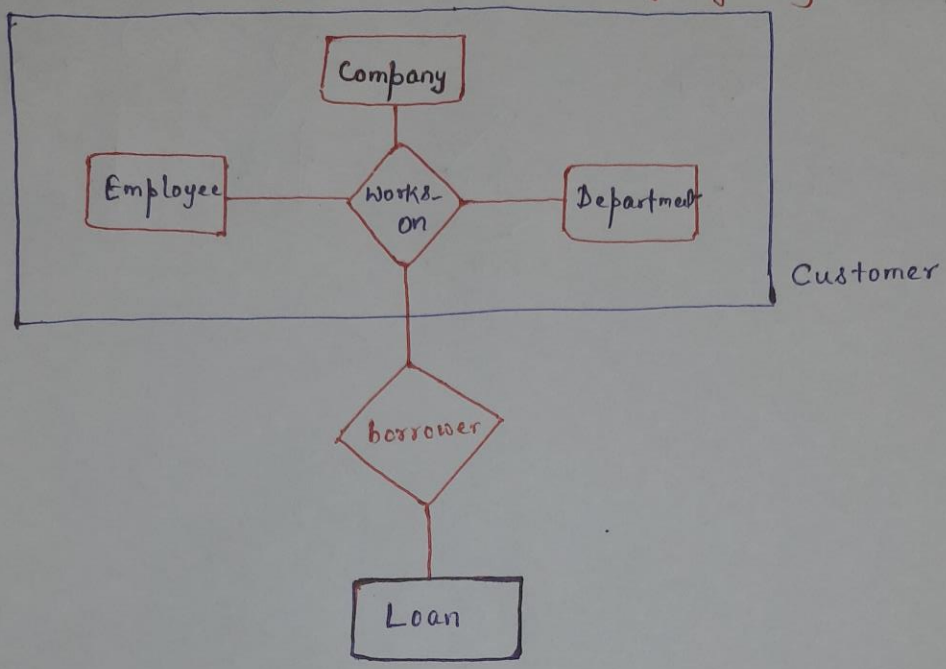
Loan_no	Payment_no	Payment_Date	Payment_amount
L1	007		
L2	007		
L3	007		
L1	109		
L2	109		
L3	109		
L1	217		
L2	217		
L3	217		

Specialization and Generalization



- Customer (Pname, Mobileno, Address, Cus-type)
- Fulltime (Pname, Mobileno, Address, Depastment, Designation)
- Parttime (Pname, Mobileno., Address, Department, #days, Job)
- Adhoc (Pname, Mobileno., Address, Department, #Hours)

[E-R Diagram with Aggregation]



[*] Let us suppose, There is a bank. where one of the Bank employees is trying to take the loan from the same bank.

Bank has to maintain Customer's information before giving the loan.

Already Customer's information is ~~there~~ in Bank's Database.

So, if they maintain seperately those info in Customer table that will be replica of their employees information.

[E-R Diagram with Existence Dependency]