

CSC371 Database Systems – 1

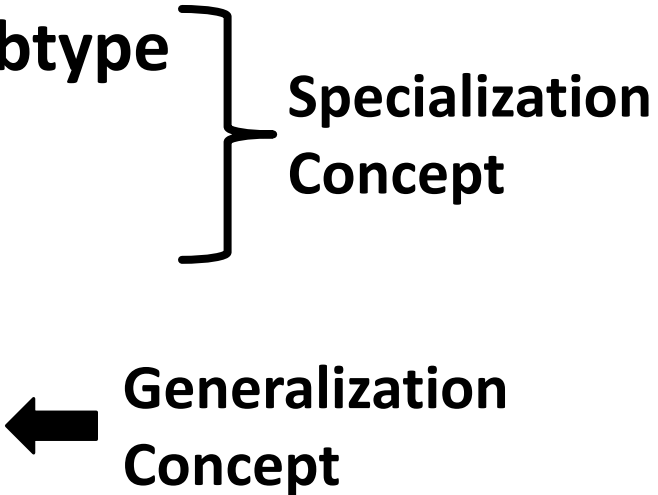
Course Instructor: Mr. Amjad Usman

Email: amajdusman@ciitwah.edu.pk

Lecture 30

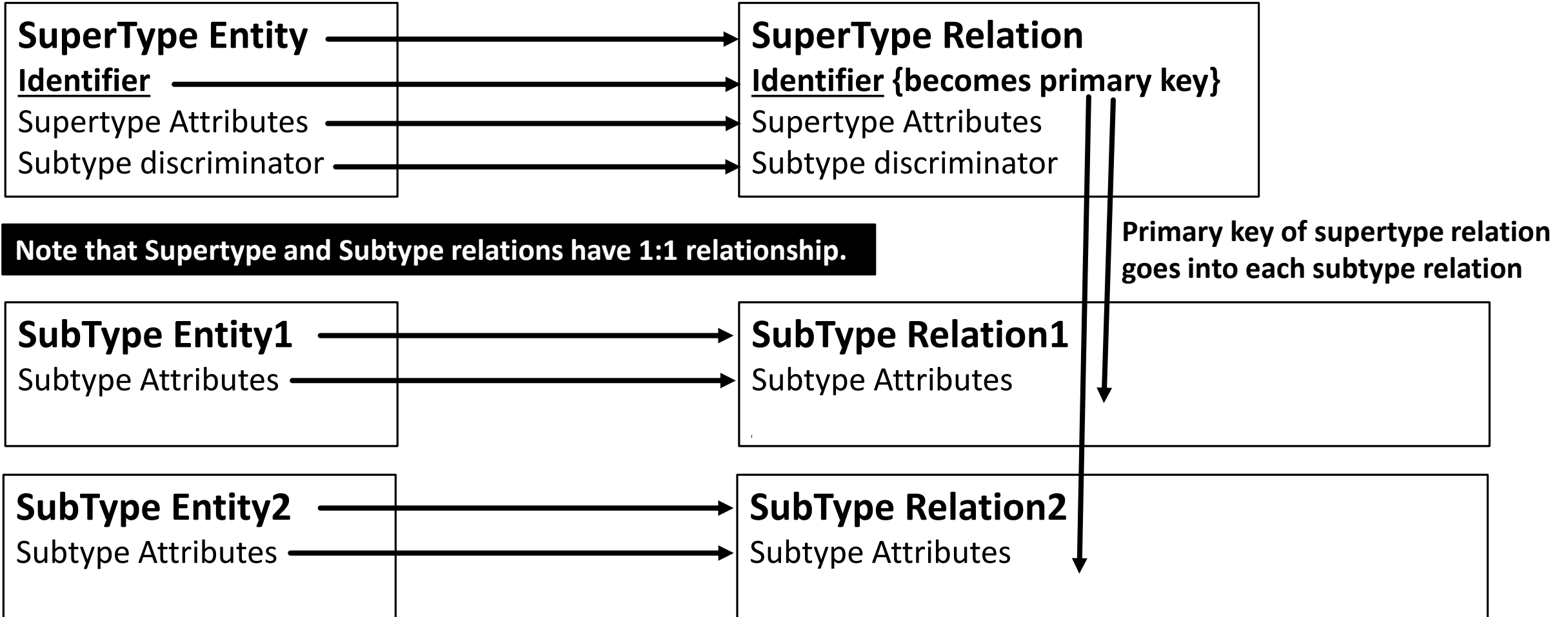
Converting EER Model into Relational Model

Transforming EER Diagrams into Relations

- Select any one option to convert EER into Relational Model
 - Option#1: Creating Relations for Supertype and Subtype
 - Option#2: Creating Relations for Subtype only
 - Option#3: Creating a Relation for Supertype only
- Specialization Concept
- Generalization Concept
- 

Option1:

Creating Relations for Supertype & Subtype entities



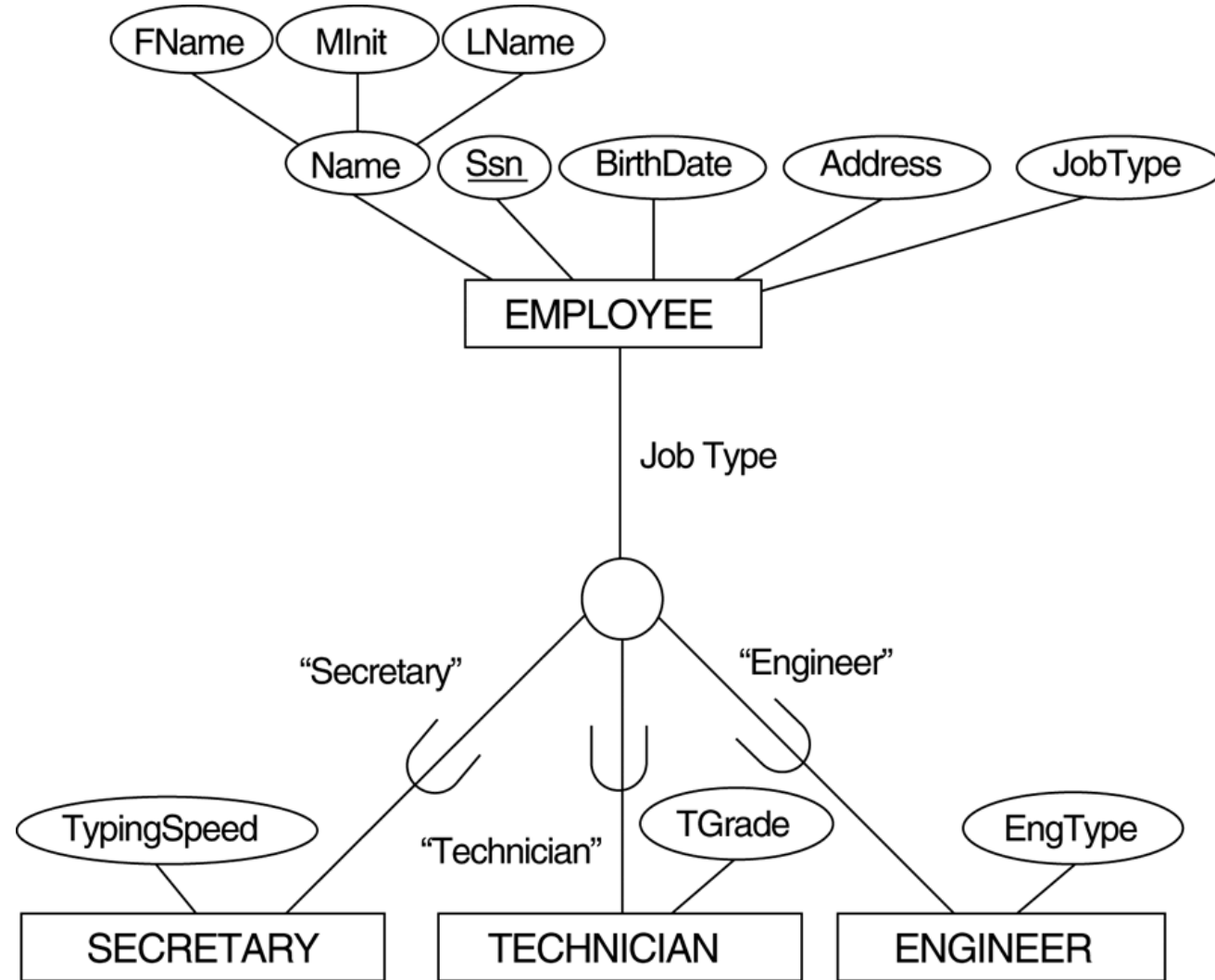
Option1:

Creating Relations for Supertype & Subtype entities

- One relation for supertype and for each subtype
- Supertype attributes (including identifier and subtype discriminator) go into supertype relation
- Subtype attributes go into each subtype; primary key of supertype relation also becomes primary key of subtype relation
- 1:1 relationship established between supertype and each subtype, with supertype as primary table

Option1:

Creating Relations for Supertype & Subtype entities



Option1:

Creating Relations for Supertype & Subtype entities

EMPLOYEE

<u>SSN</u>	FName	MInit	LName	BirthDate	Address	JobType
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SECRETARY

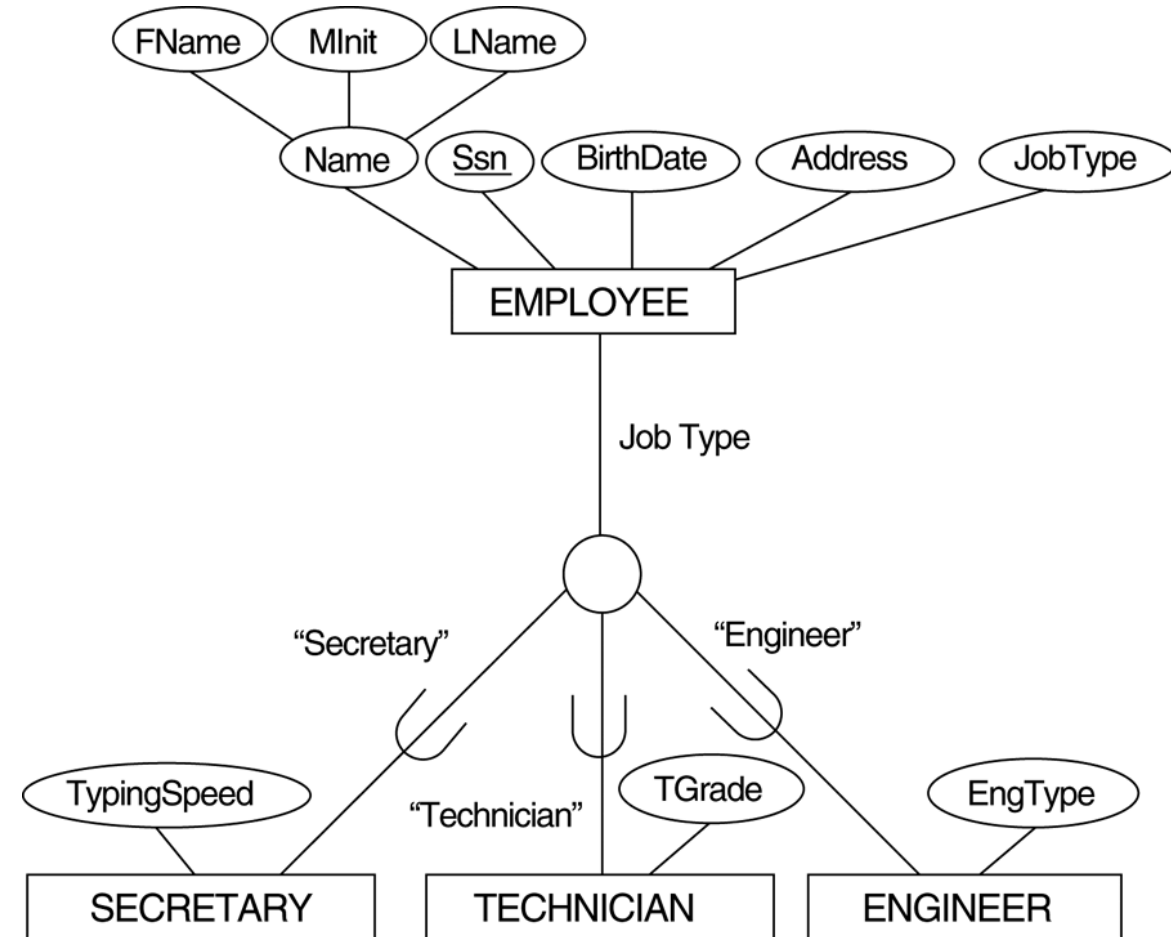
<u>SSN</u>	TypingSpeed
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TECHNICIAN

<u>SSN</u>	TGrade
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ENGINEER

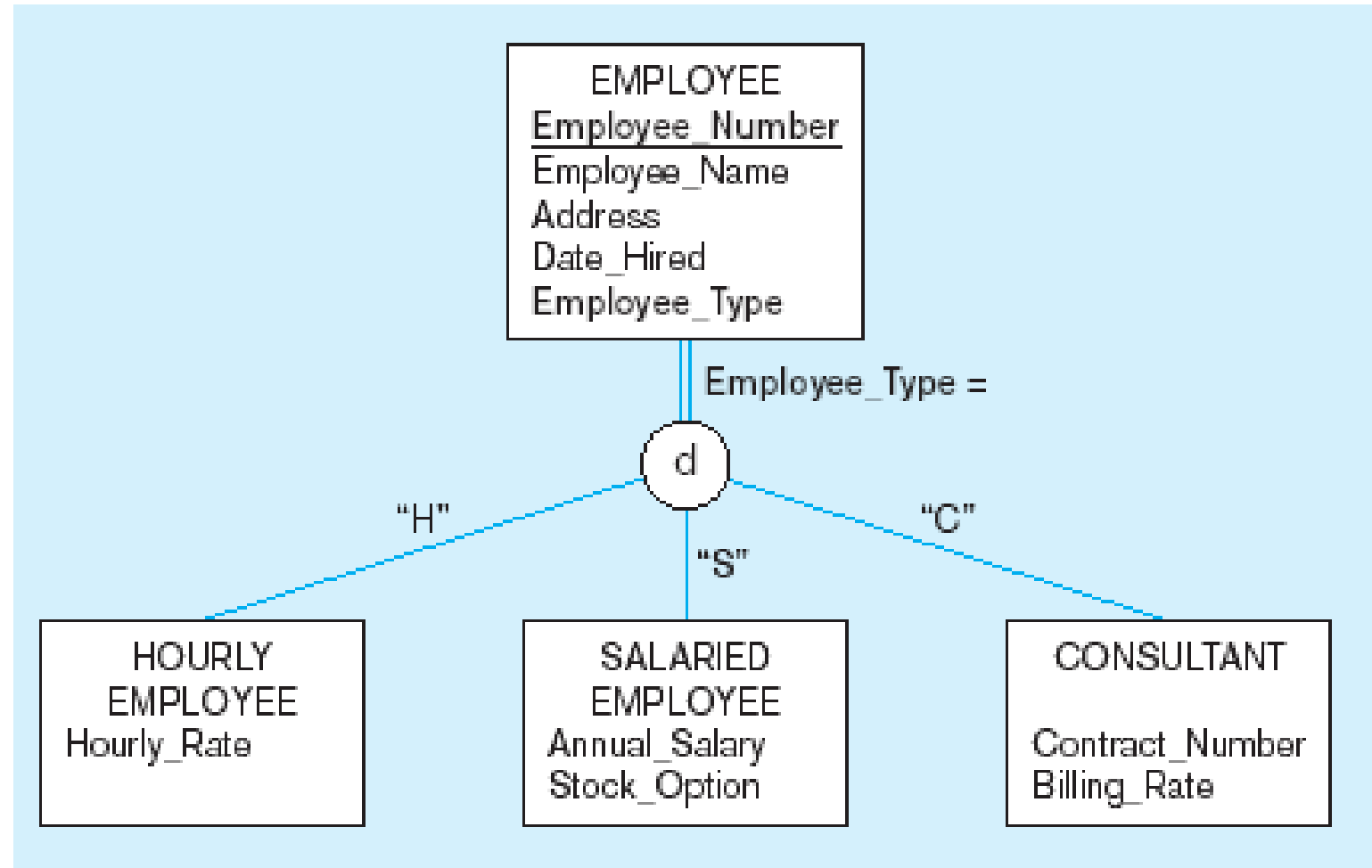
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Option1:

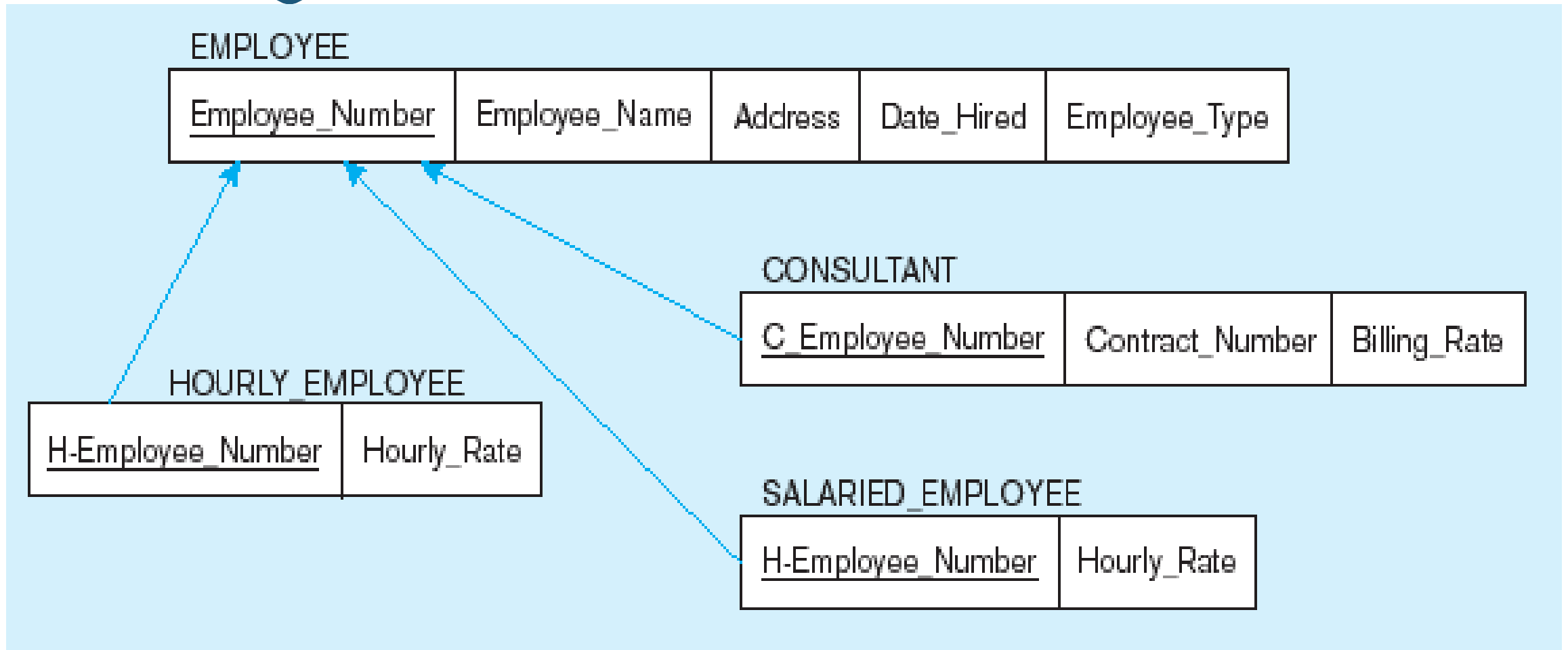
Creating Relations for Supertype & Subtype entities

Its Your Turn
Convert it



Option1:

Creating Relations for Supertype & Subtype entities



Option2:

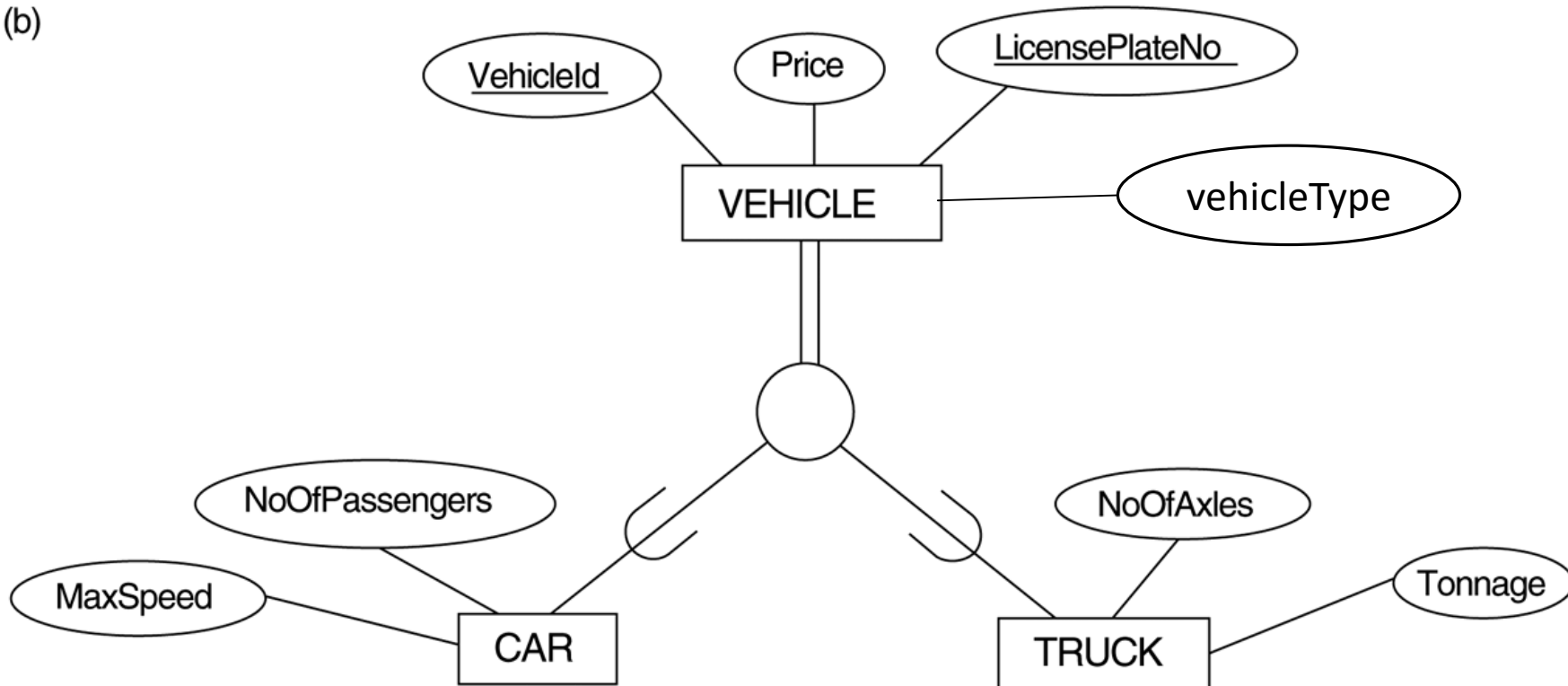
Creating Relations for Subtype entities only

- Create relation for each subtype entity
- Subtype attributes go into each subtype
- Supertype attributes (except type discriminator) go into each subtype relation
- The identifier of supertype entity becomes primary key in each subtype relation

Option2:

Creating Relations for Subtype entities only

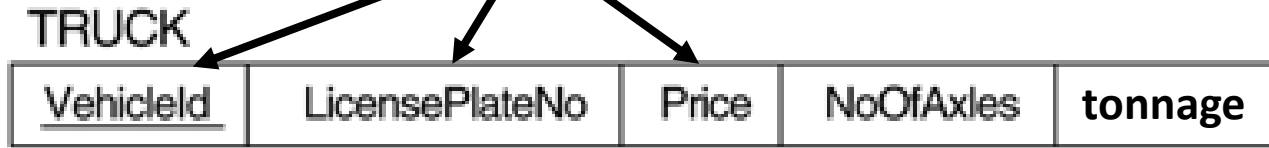
(b)



Option2:

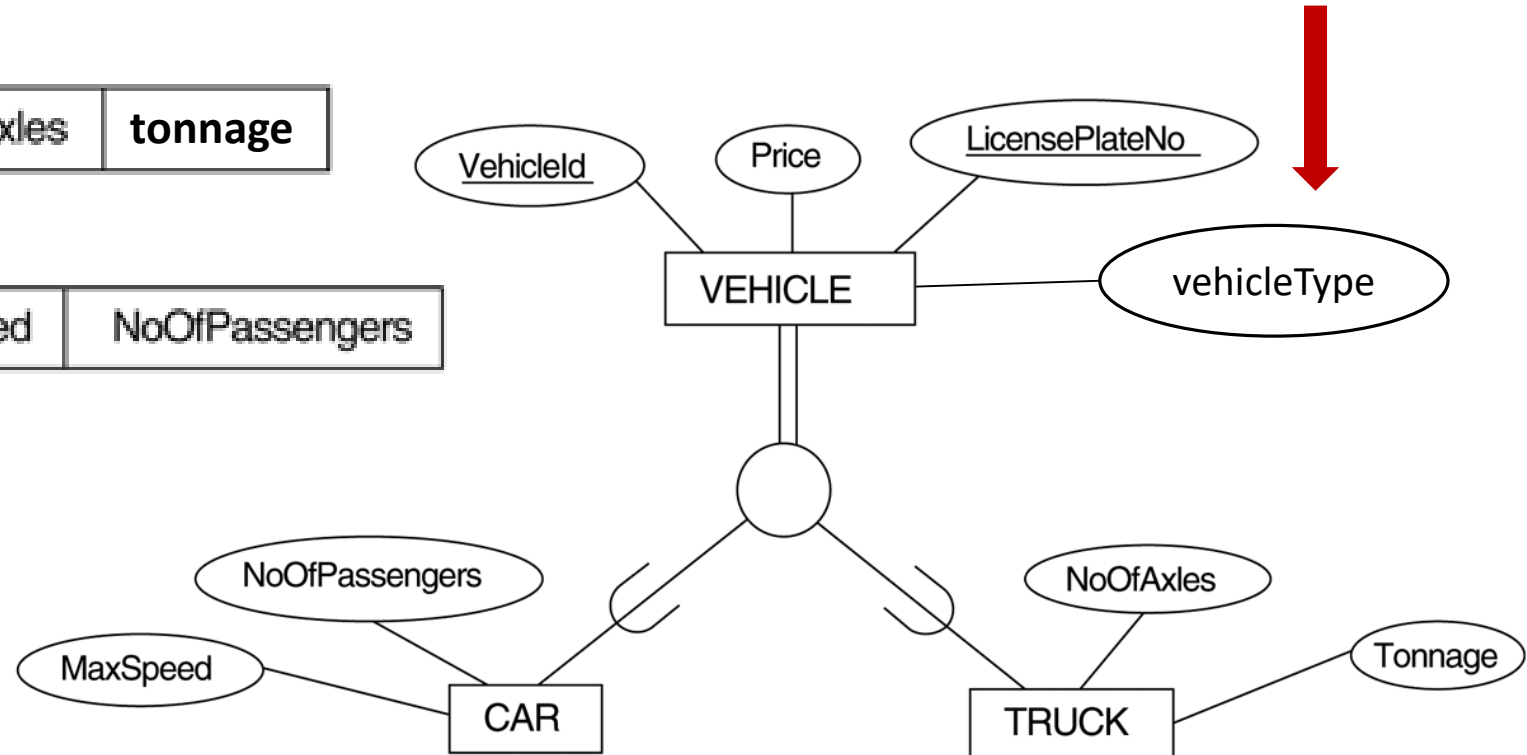
Creating Relations for Subtype entities only

Supertype Vehicle Attributes



Supertype Vehicle Attributes

Where to store vehicleType attribute?

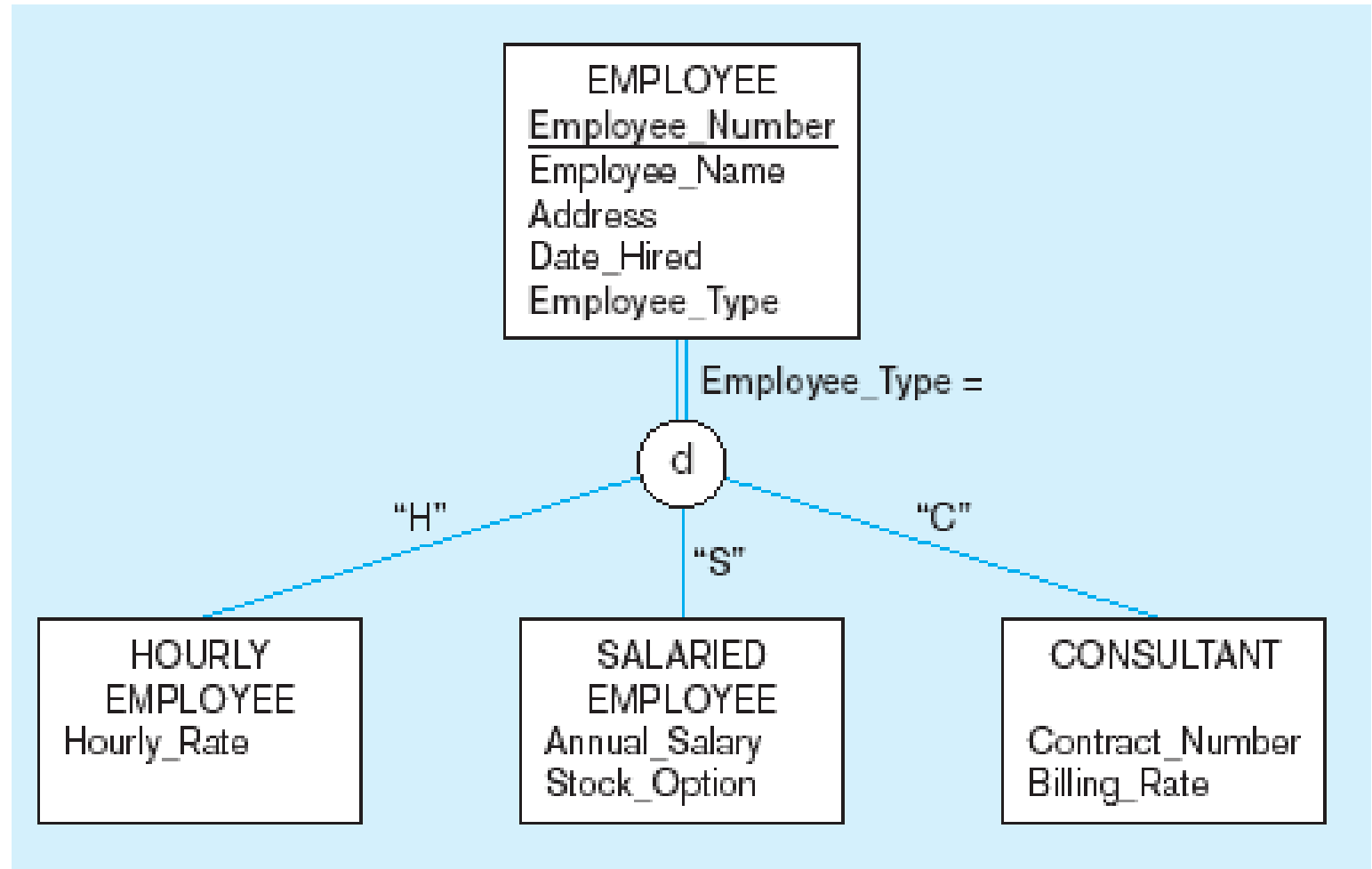


Option2:

Creating Relations for Subtype entities only

Its Your Turn

Convert it



Option3:

Creating Relation for Supertype entity only

- Create relation for supertype entity
- Subtype attributes go into each subtype
- Supertype attributes & type discriminator go into supertype relation
- Subtype attributes also go into supertype relation
- The identifier of supertype entity becomes primary key

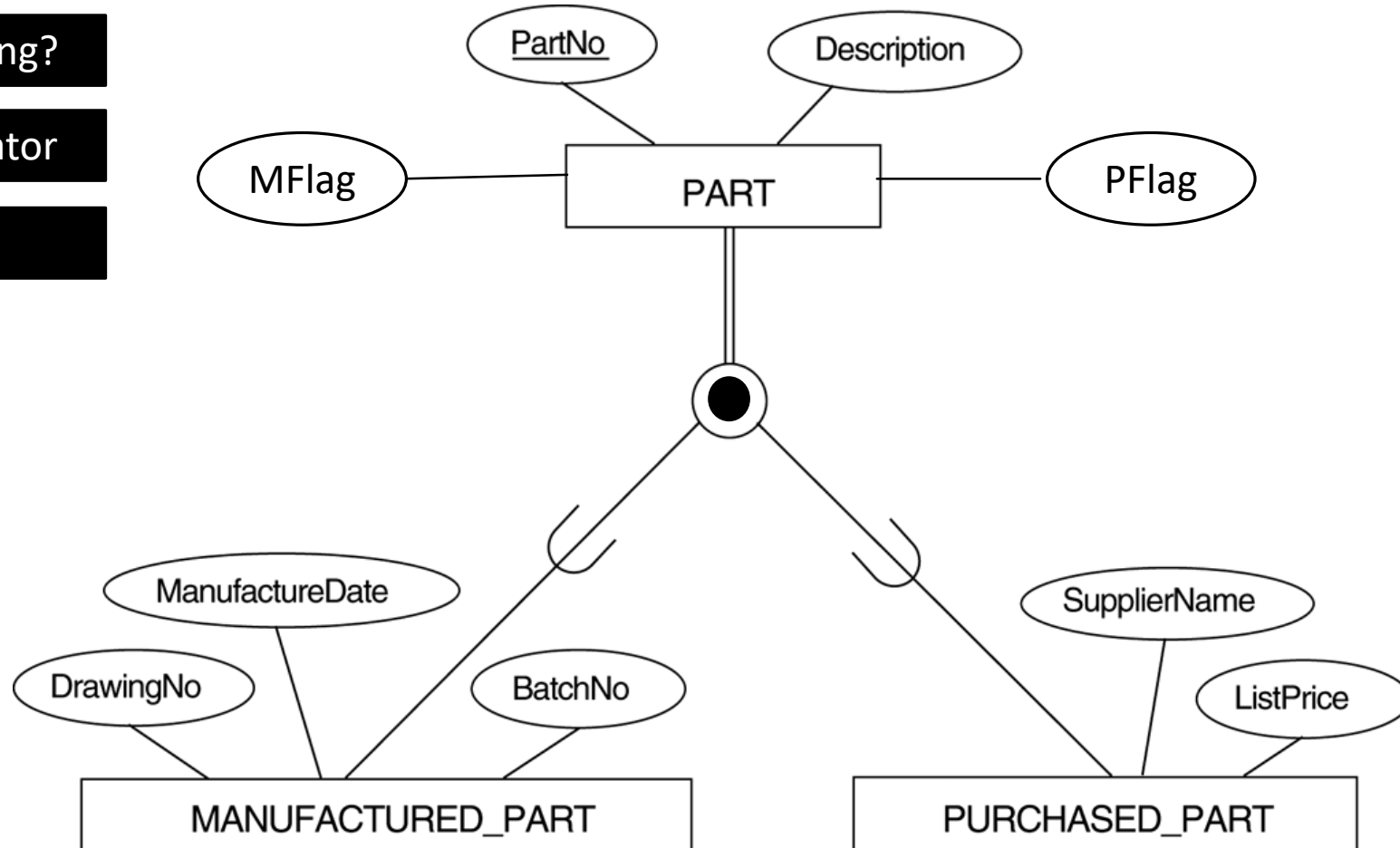
Option3:

Creating Relation for Supertype entity only

Is there anything missing?

Yes, Subtype discriminator

How many....?

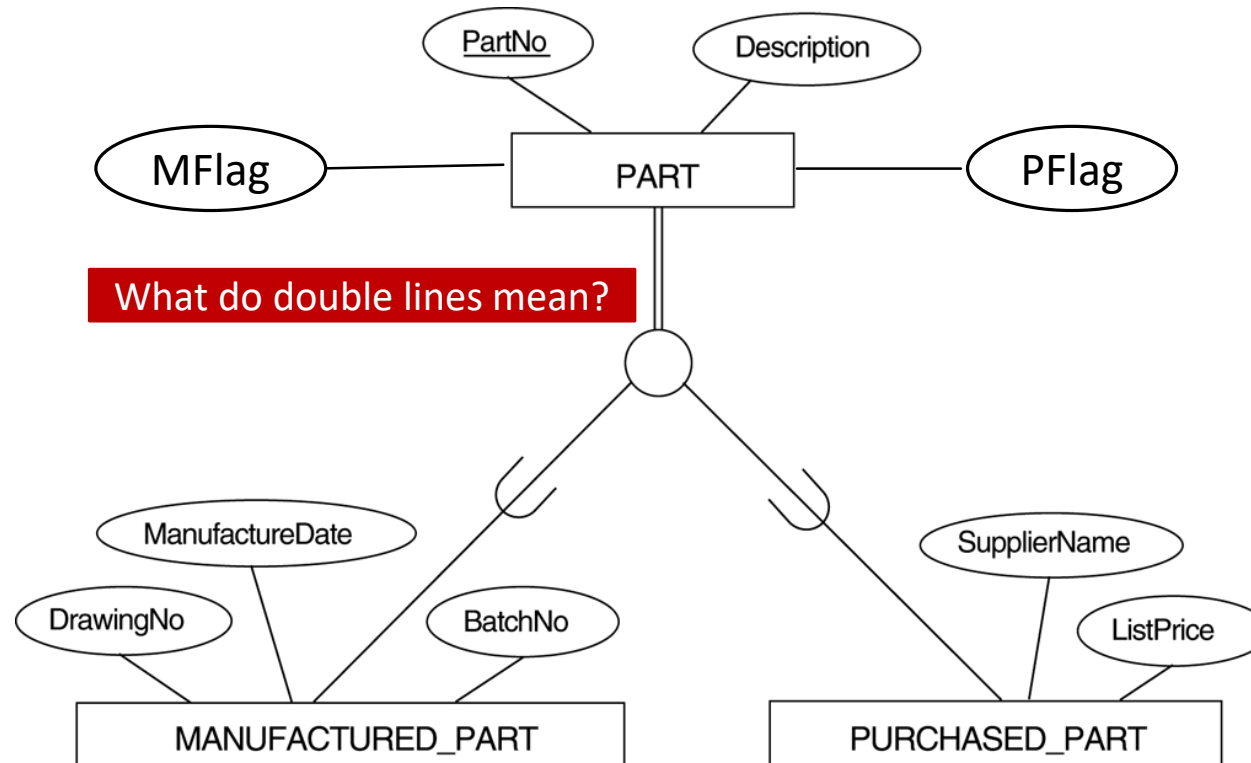


Option3:

Creating Relation for Supertype entity only

PART

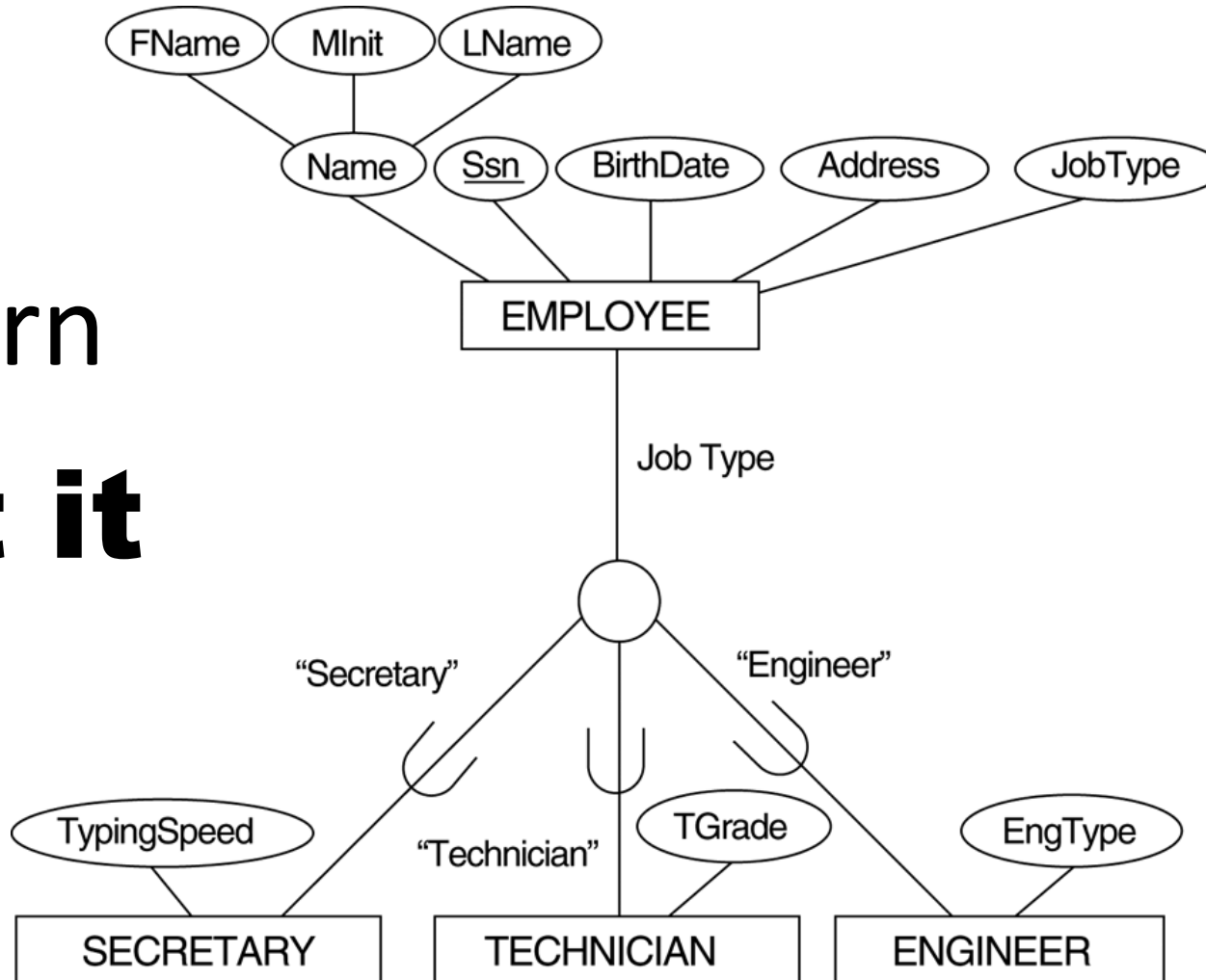
<u>PartNo</u>	Description	MFlag	DrawingNo	ManufactureDate	BatchNo	PFlag	SupplierName	ListPrice
Manufactured_Part Subtype Attributes						Purchased_Part Subtype Attributes		



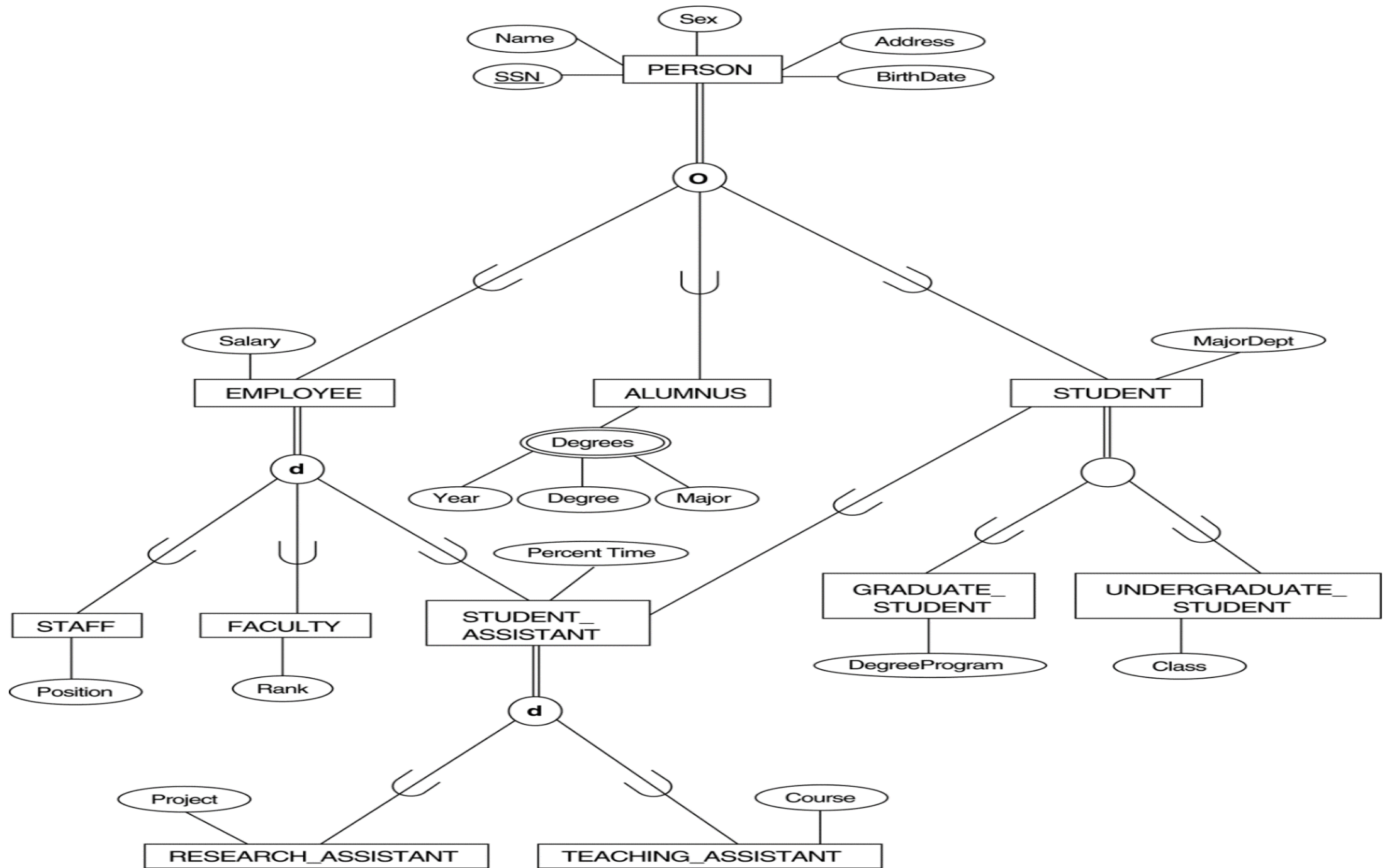
Option3:

Creating Relation for Supertype entity only

Its Your Turn
Convert it



Sample ERD of a University



Sample University ERD

PERSON

<u>SSN</u>	Name	BirthDate	Sex	Address
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EMPLOYEE

<u>SSN</u>	Salary	EmployeeType	Position	Rank	PercentTime	RAFlag	TAFlag	Project	
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ALUMNUS

<u>SSN</u>

ALUMNUS_DEGREES

<u>SSN</u>	Year	Degree	
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STUDENT

<u>SSN</u>	MajorDept	GradFlag	UndergradFlag	DegreeProgram	Class	StudAssistFlag
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Thank You So Much

