

Name: Shah Raza

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Date:

## (Questions)

Q1. What is an Entity?

(Ans) Anything about which data should be collected is called an Entity.

Entity can be a:

1. Person
2. Place
3. Object
4. Event
5. Concept

Q2. What is a relationship?

(Ans) Entities may relate to each other in many ways.

Relationships:

- Mandatory one (11)
- Mandatory many ( $\infty$ )
- Optional one (01)
- Optional many ( $0\infty$ )

Q3. How do you draw an ER Diagram?

(Ans) Steps:

1. Identify the entities.
2. Relationships b/w entities.
3. Attributes of different entities.

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Q4. What is a Conceptual schema?

(Ans) It is a high level description underlying the design of database.

Conceptual schema consists of:

- Entity description
- Business rule
- ERD
- Enhance ERD.

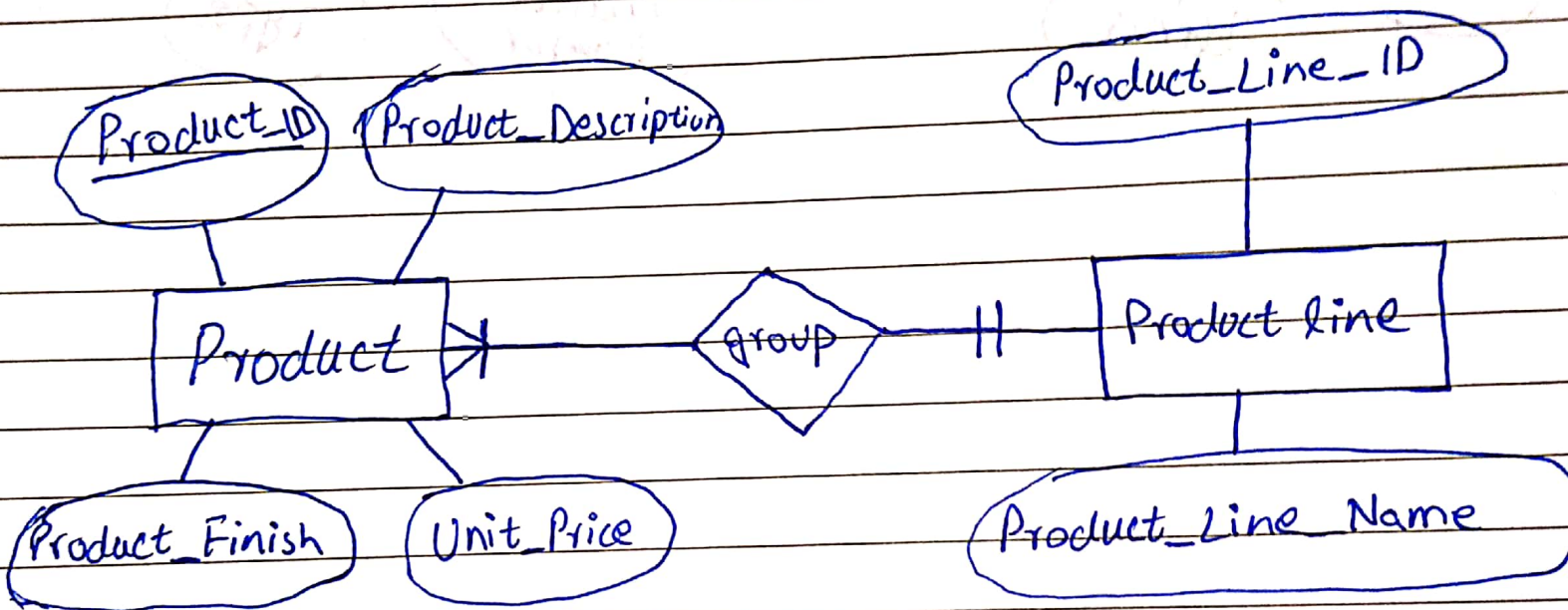
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## EXERCISE 1:

Solution:





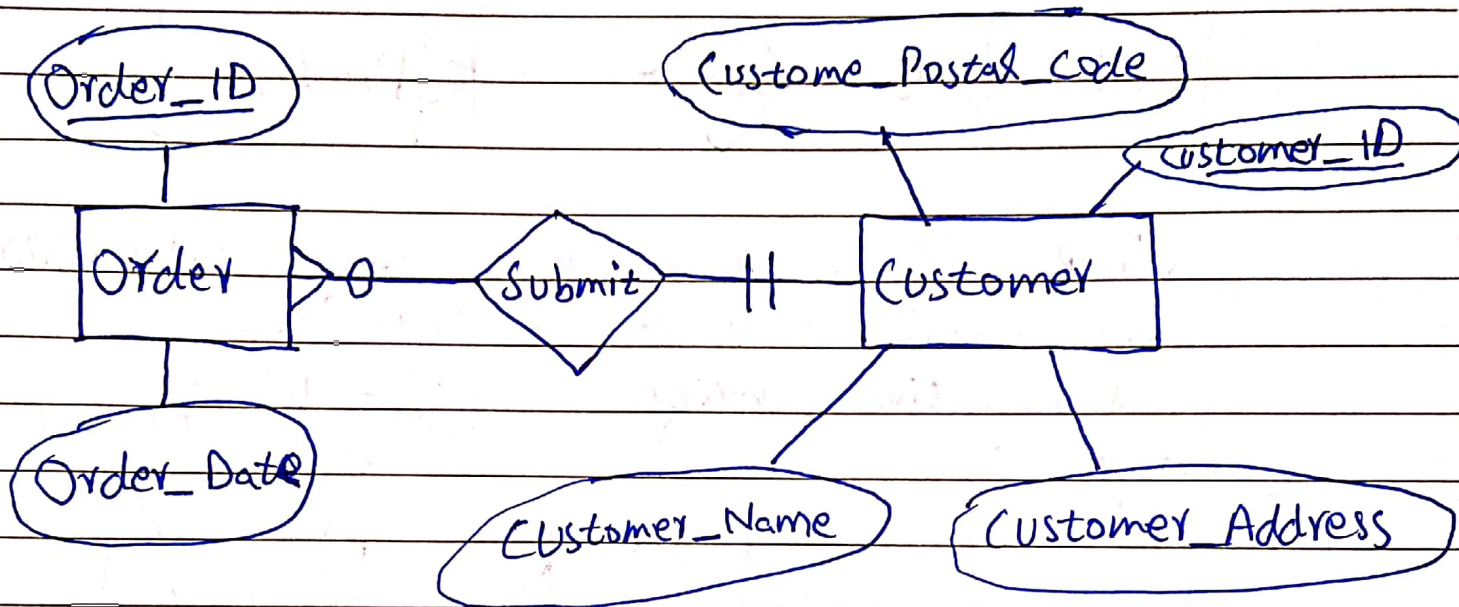
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## EXERCISE 2:

Solution:



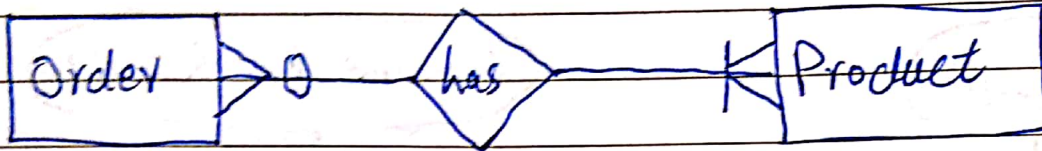
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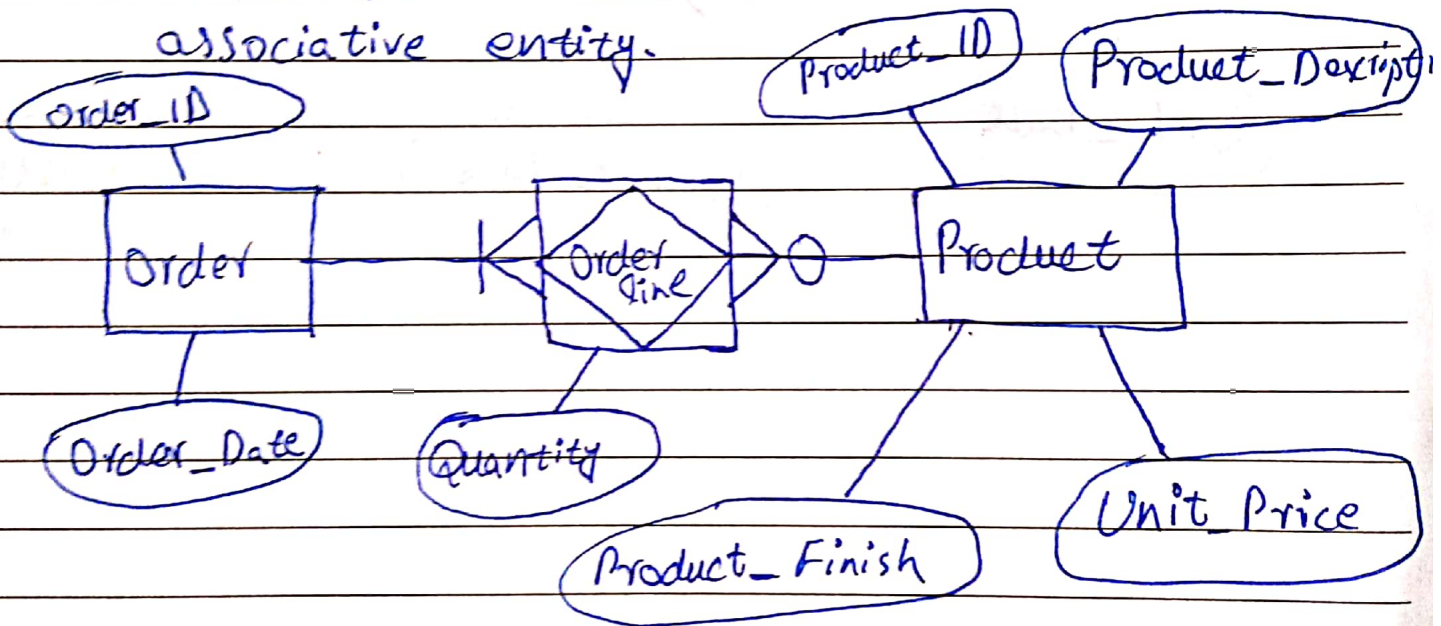
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## EXERCISE 3:

Solution:



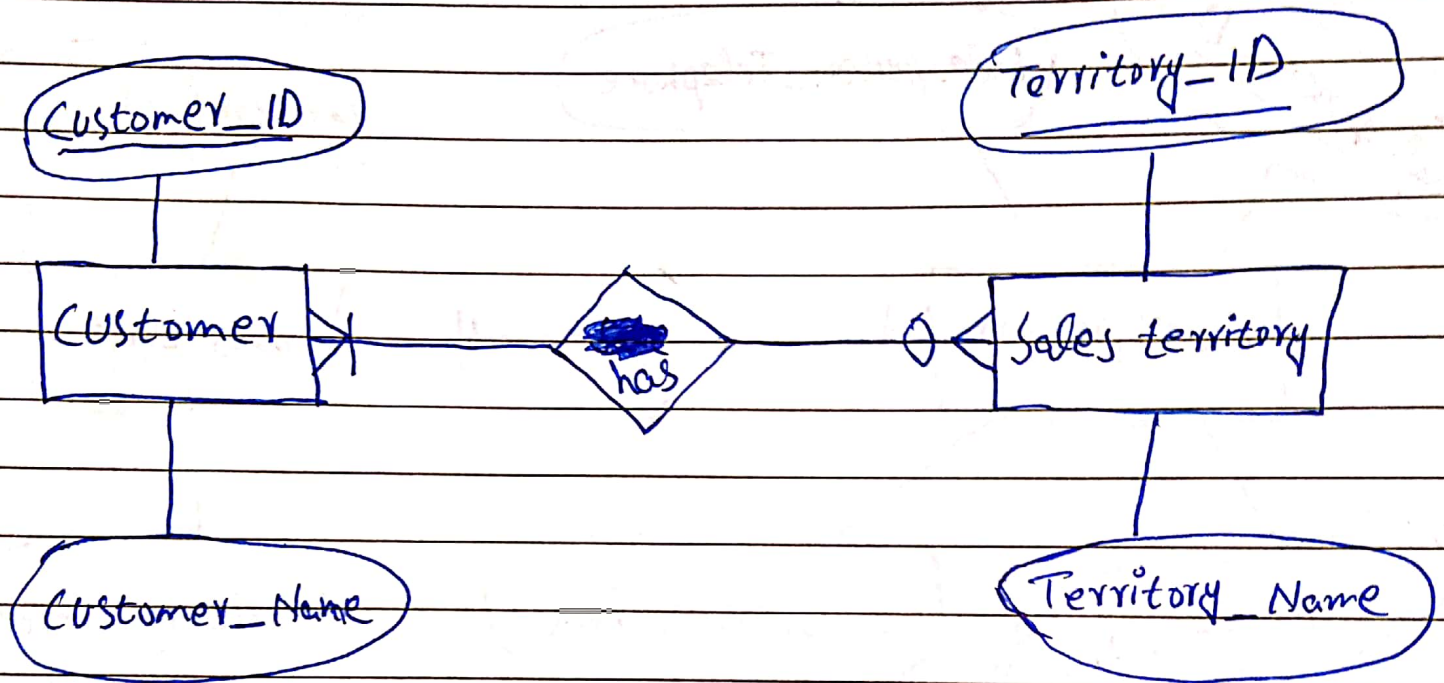
Since it is a many-to-many relationship, we should convert it into an associative entity.



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## Exercise 4:

Solution:





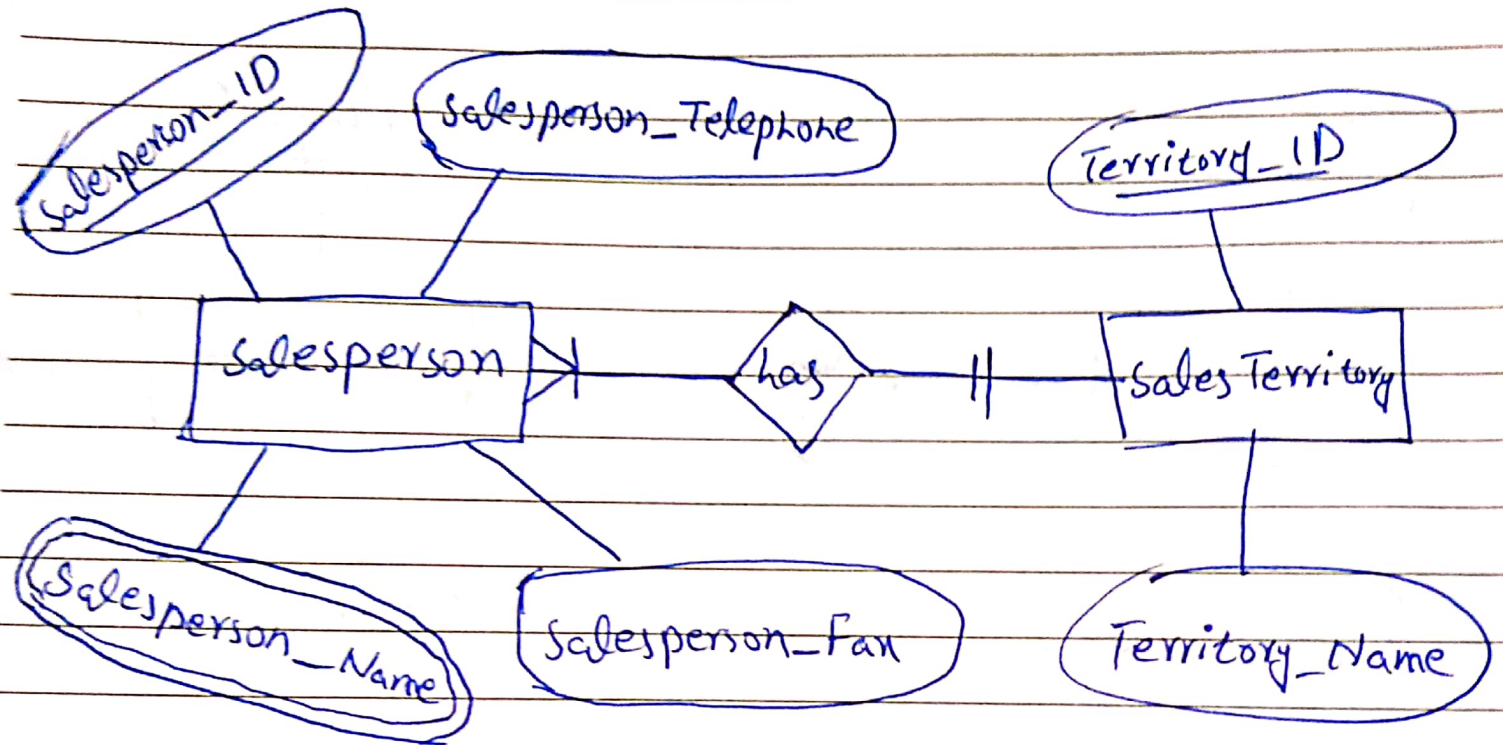
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## EXERCISE 5g

Solution:



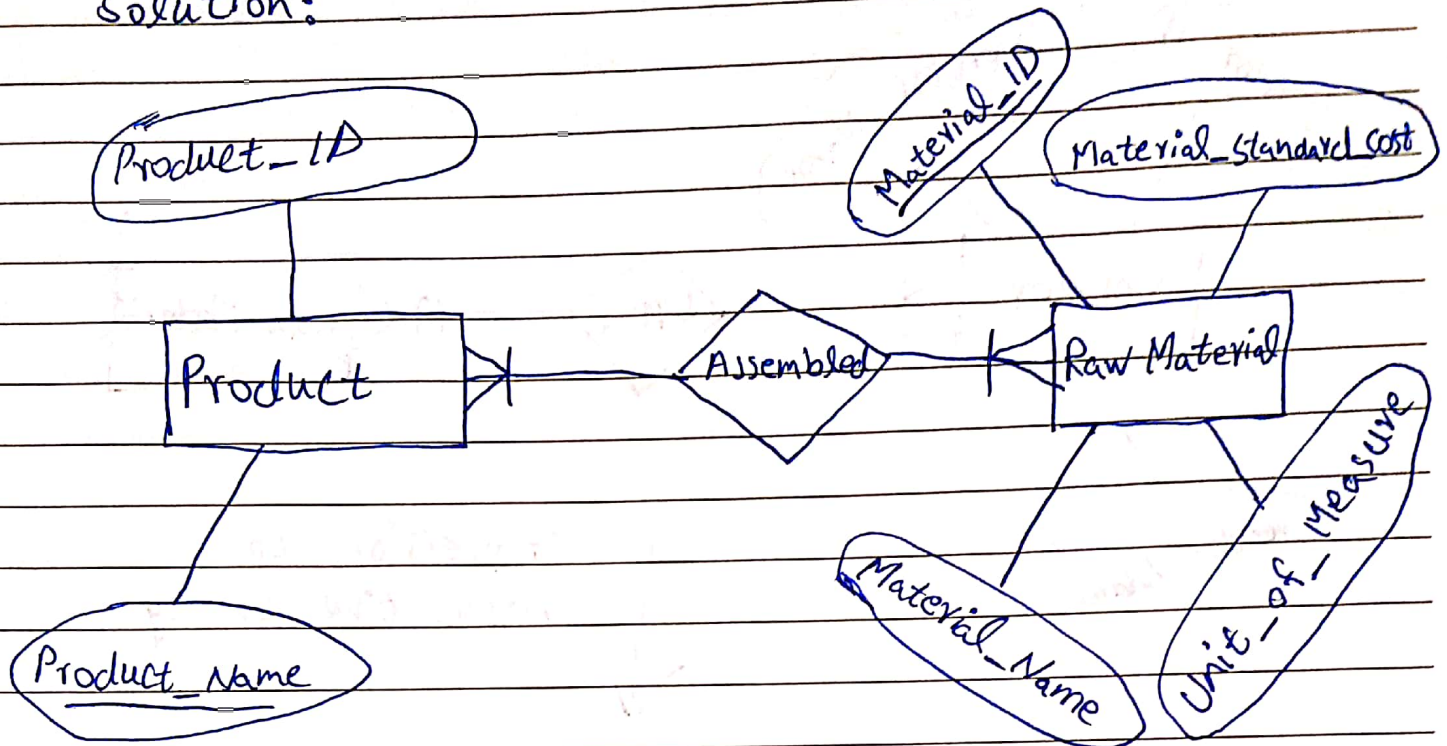
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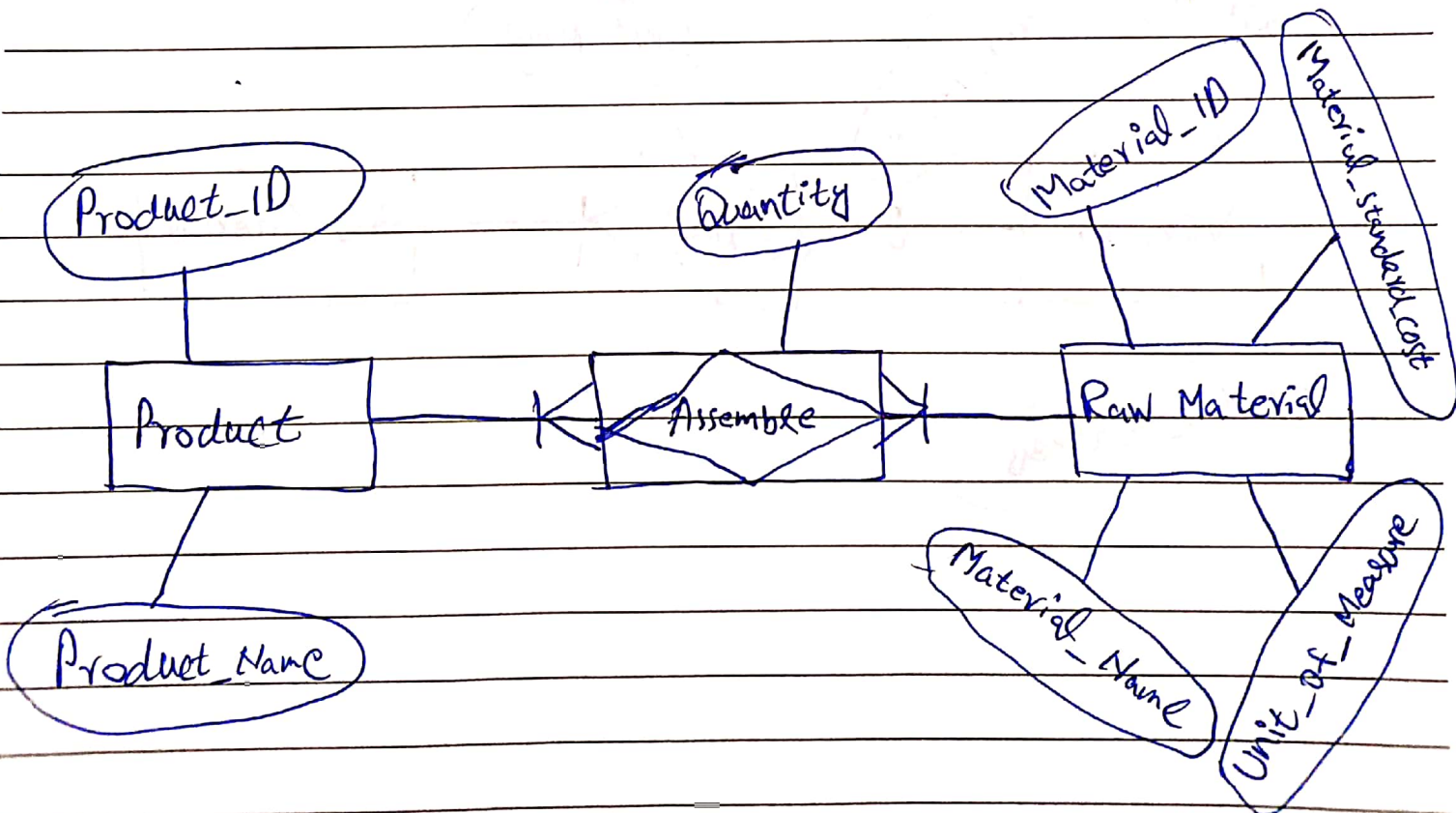
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## EXERCISE 6:

Solution:



should be converted to associative entity





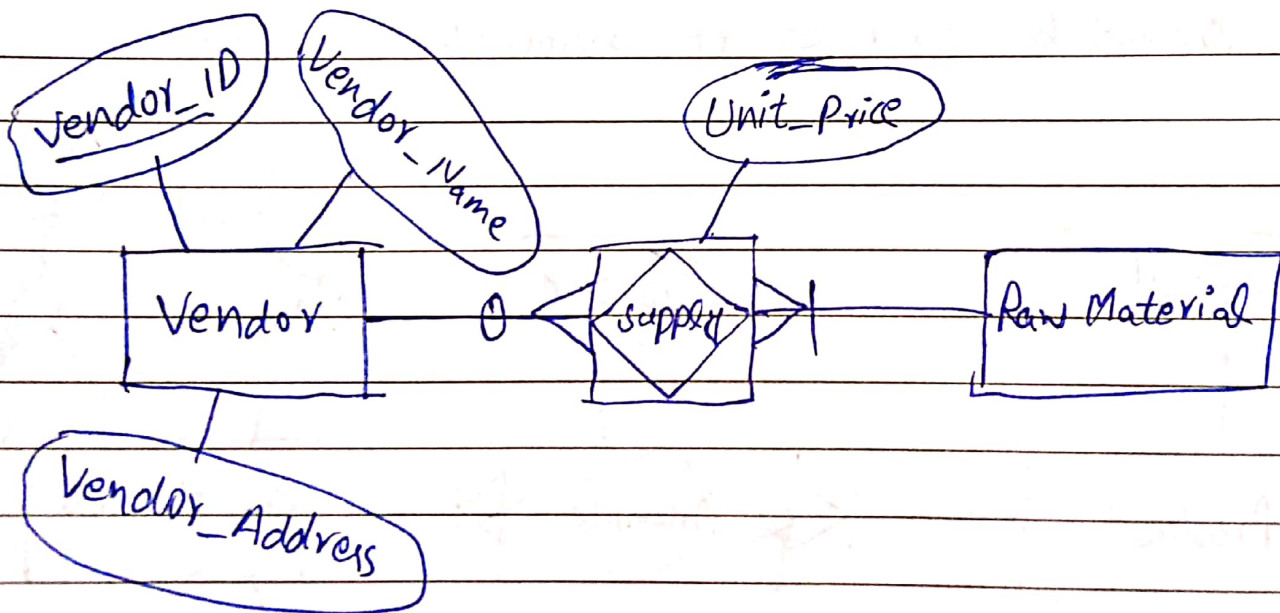
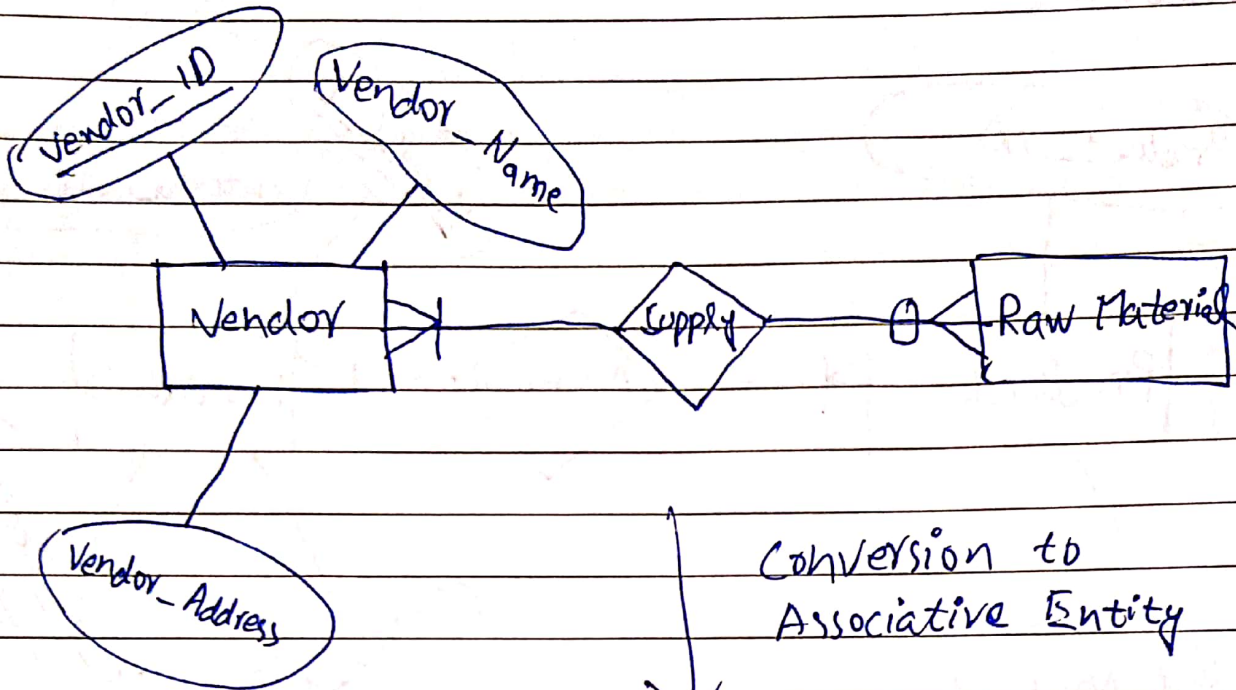
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## EXERCISE 7:

Solution:



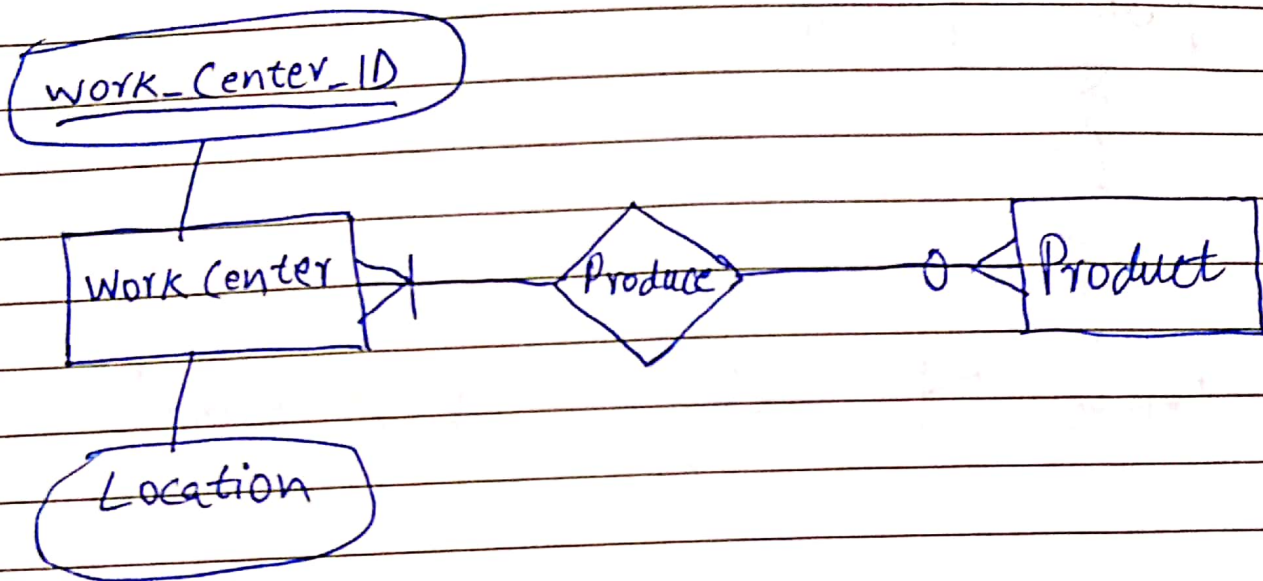
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## EXERCISE 8:

solution:



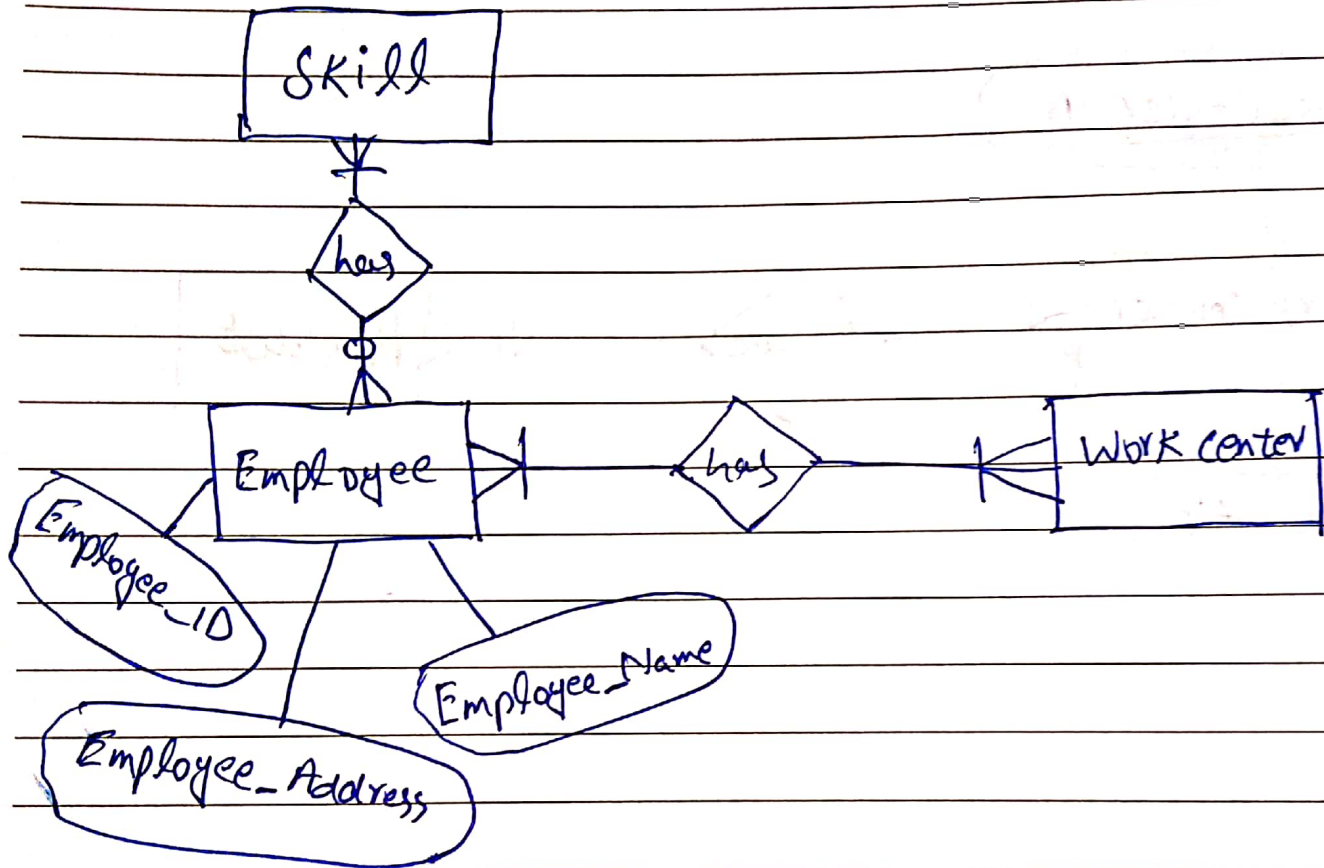
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## EXERCISE 9:

Solution:



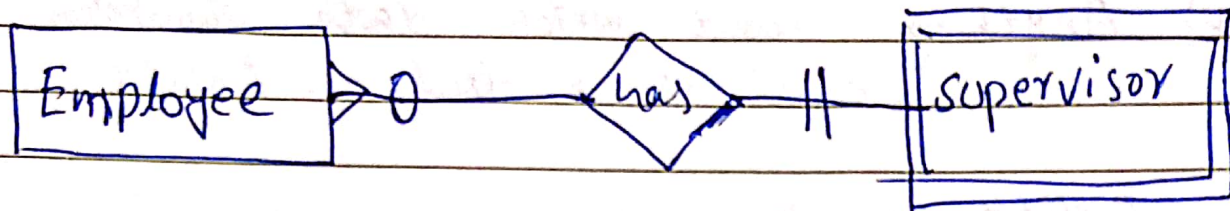


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## EXERCISE 10:



Weak entity:

~~An~~ Employee can  
be a supervisor

- Each Employee has a supervisor (only one).
- A supervisor may have any number of employees.