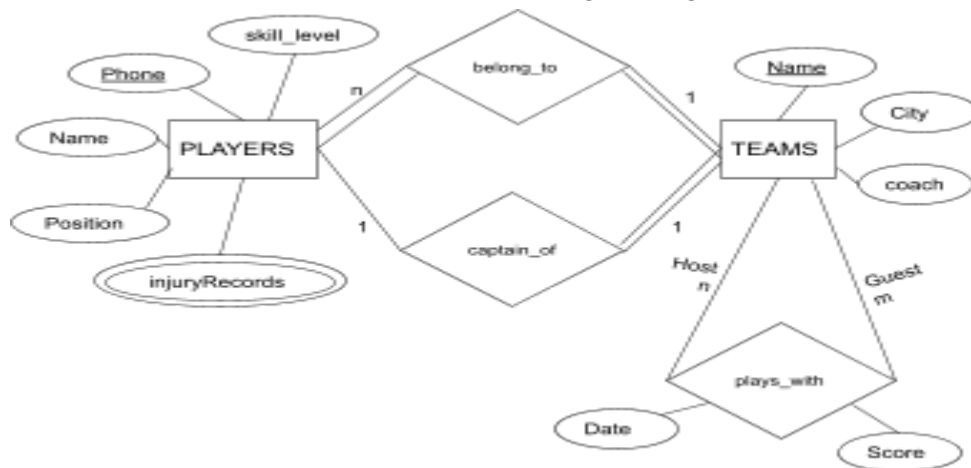


Practice Sheet
Chapter 7 (Relational Schema from ER/EER)

*Solutions are at the end of the document. SOLVE IT YOURSELF first.

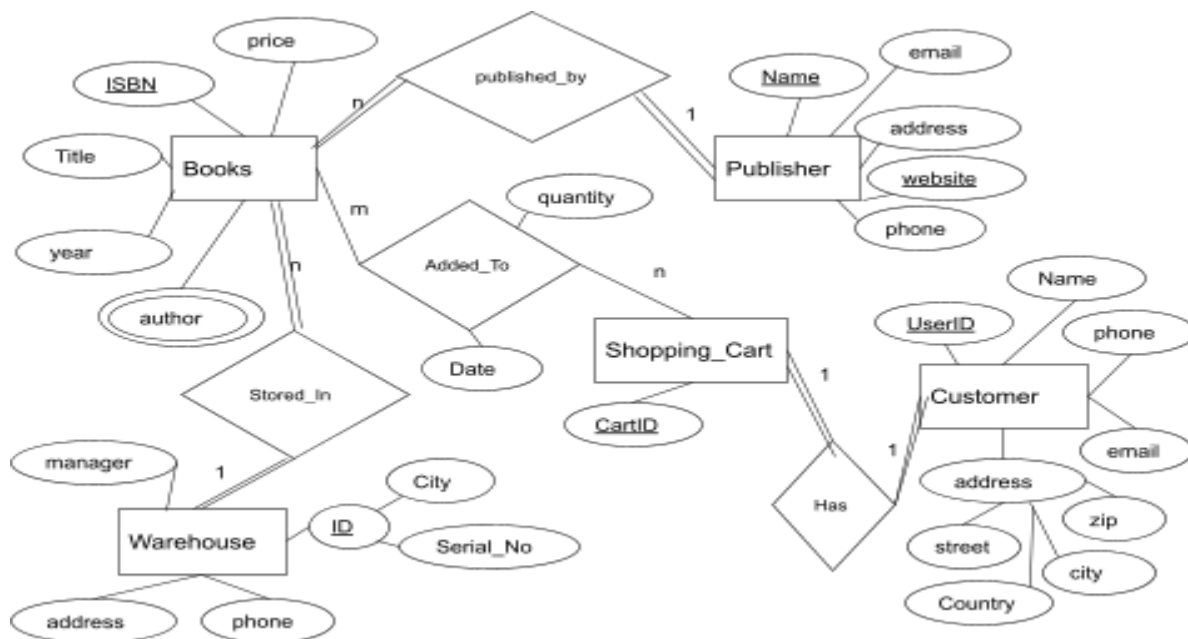
Question 1:

Construct a Relational Schema from the following ER diagram:



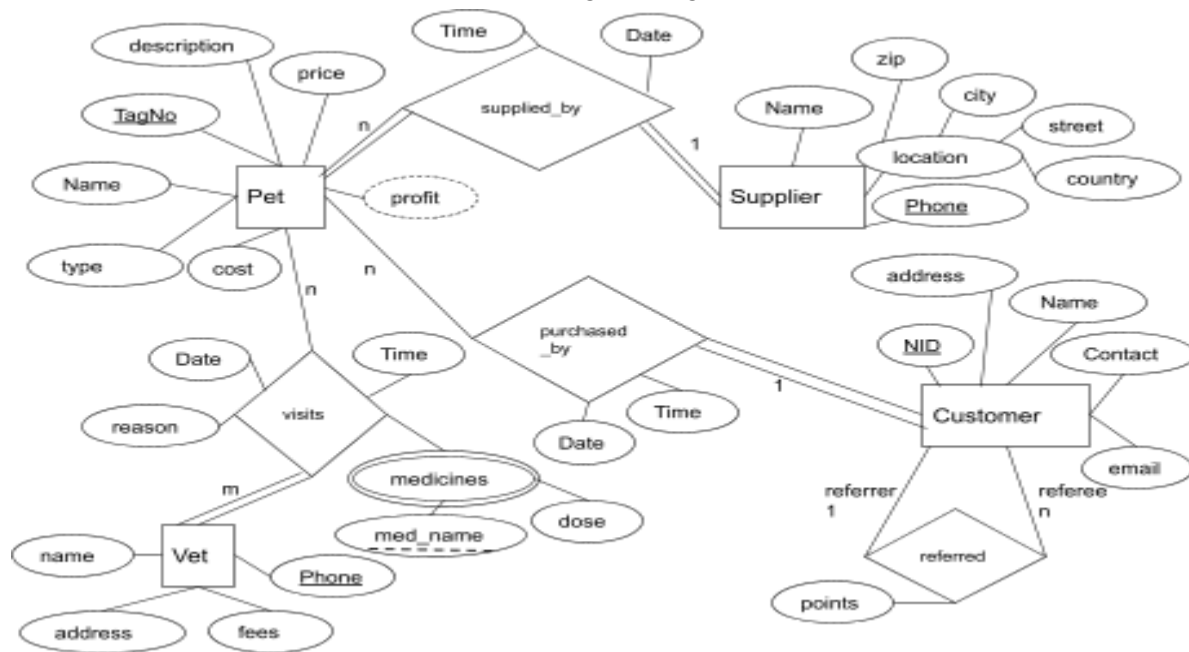
Question 2:

Construct a Relational Schema from the following ER diagram:



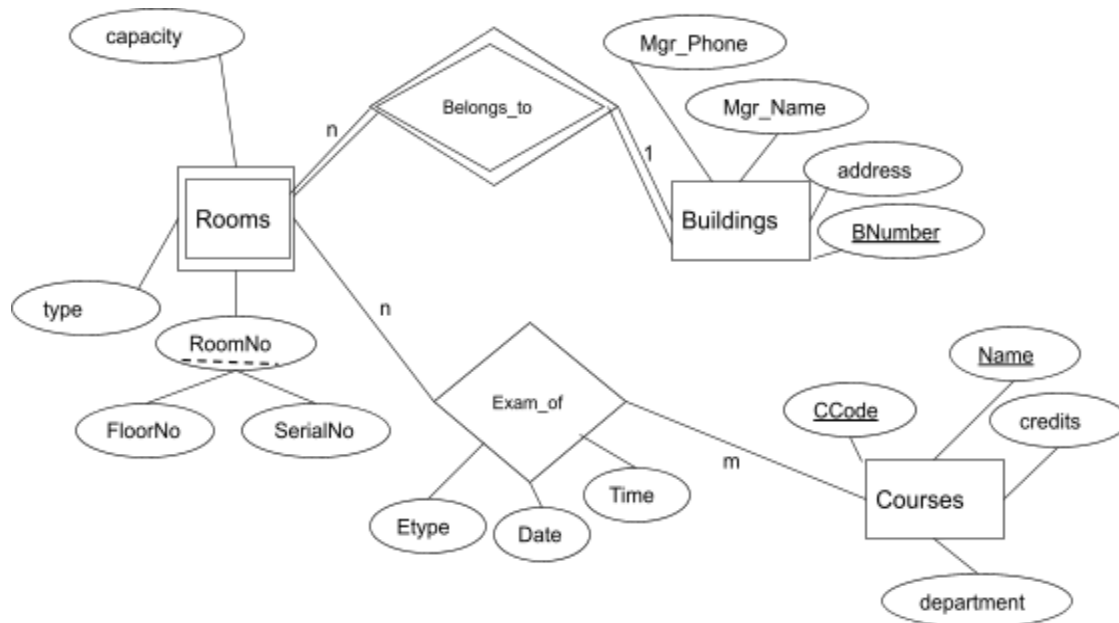
Question 3:

Construct a Relational Schema from the following ER diagram:



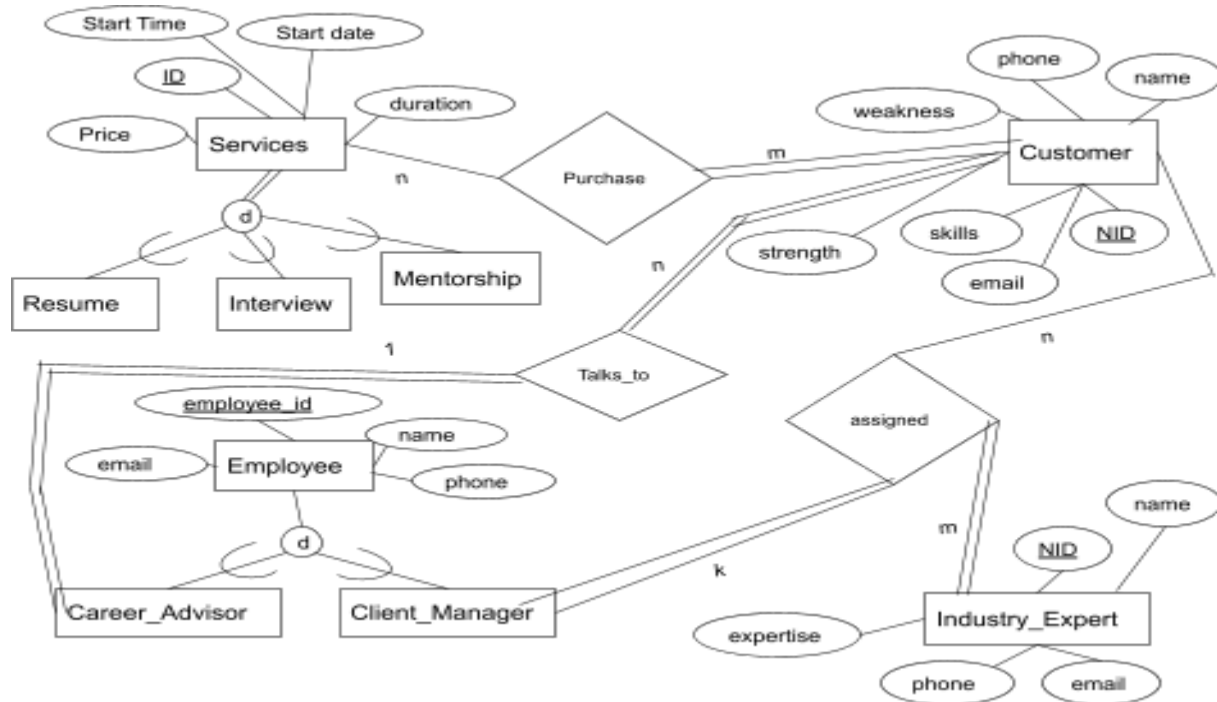
Question 4:

Construct a Relational Schema from the following ER diagram:



Question 5:

Construct a Relational Schema from the following EER diagram. For each of the subclasses/superclasses use any suitable option out of the 4 options.



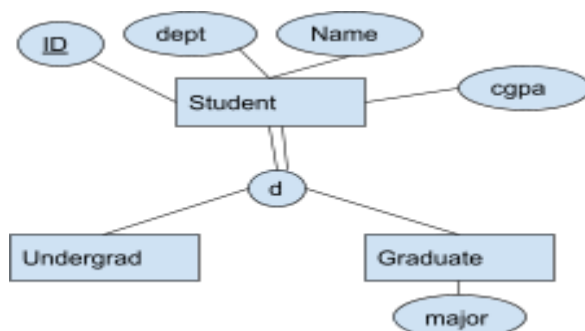
Question 6:

There are four options for mapping subclasses and superclasses:

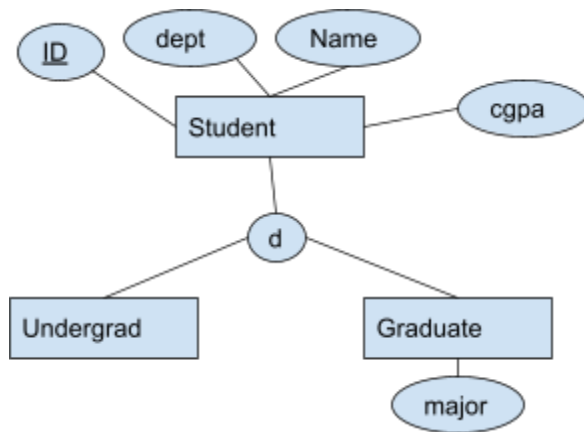
- 8A: separate tables for each subclass and superclass
- 8B: tables for only subclasses
- 8C: 1 table with 1 type attribute
- 8D: 1 table with many type/flag attributes

State which of the above options are not applicable for the following diagrams and explain why. If all 4 options are applicable then simply state "all options are applicable".

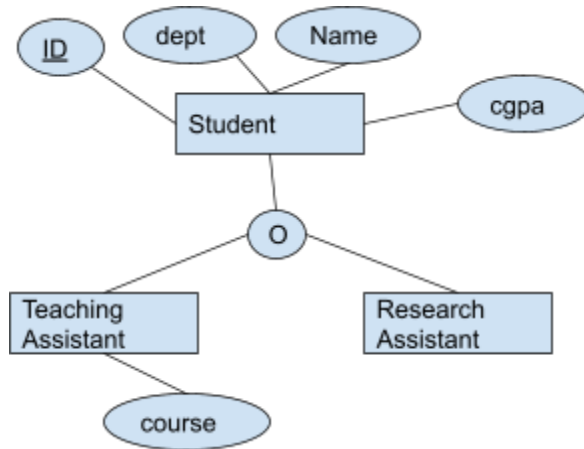
A.



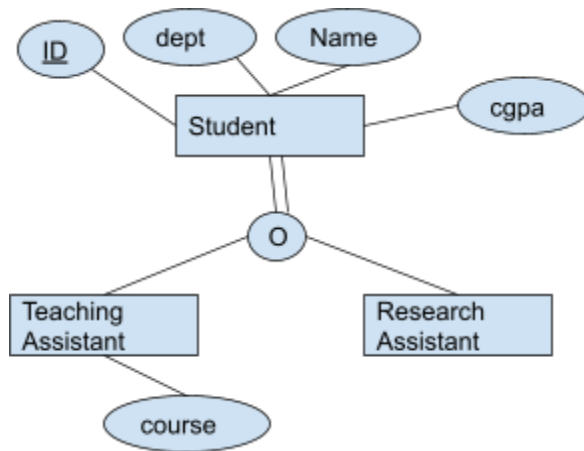
B.



C.



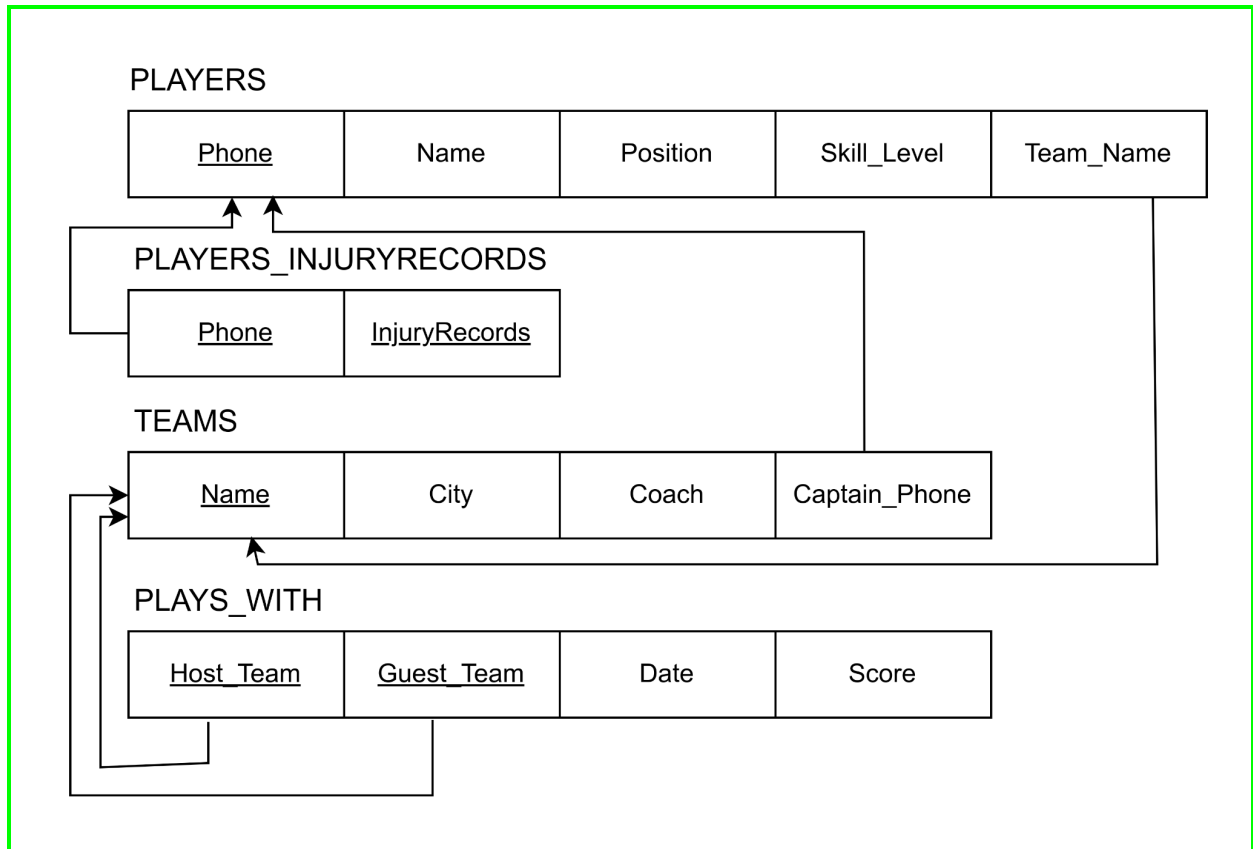
D.



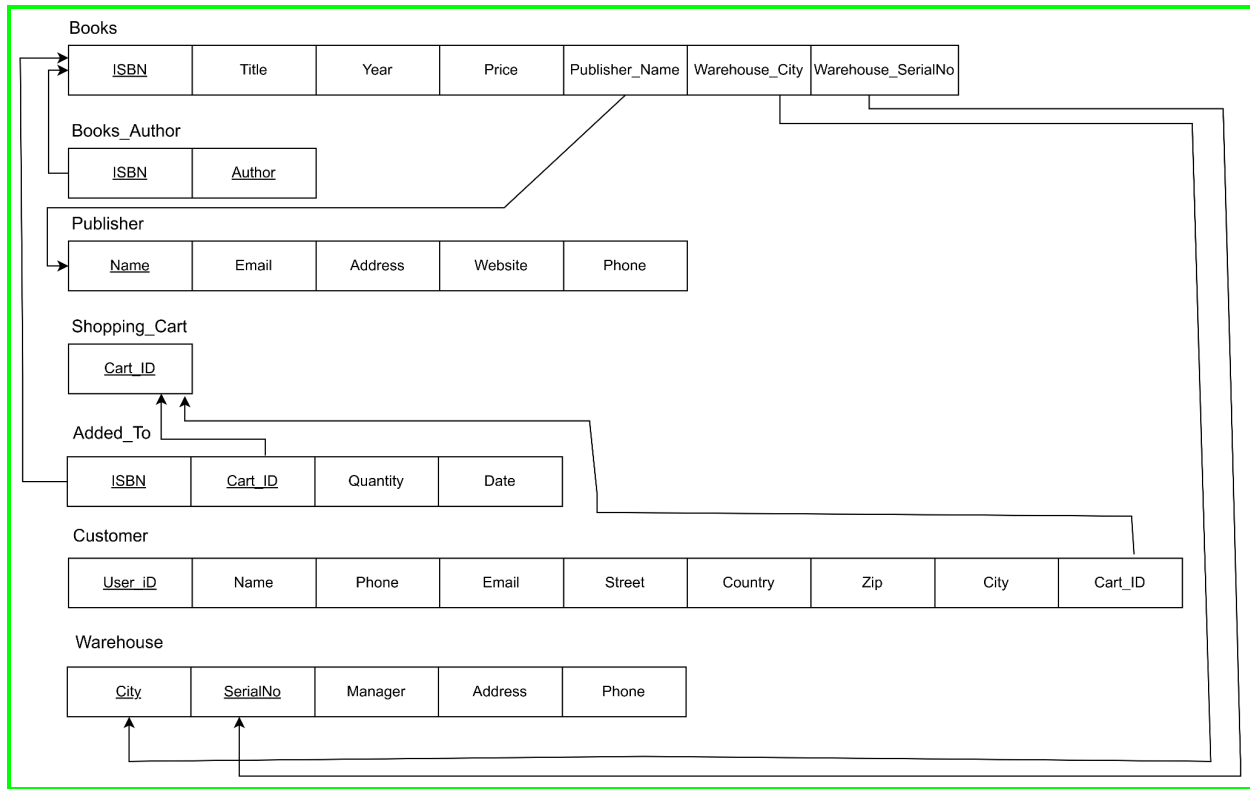
**** Note some questions may have more than one solution.**

SOLUTIONS:

Answer 1:

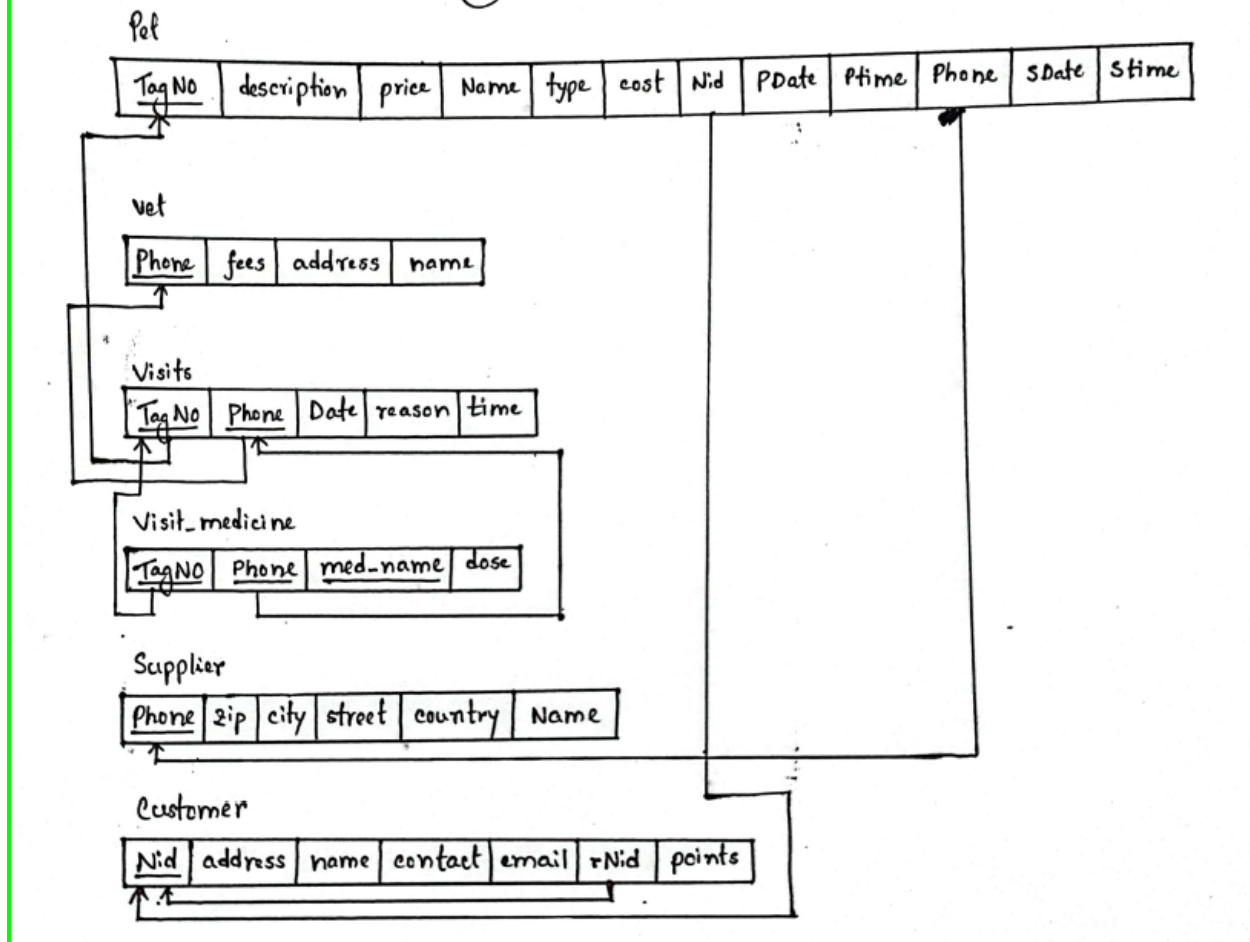


Answer 2:



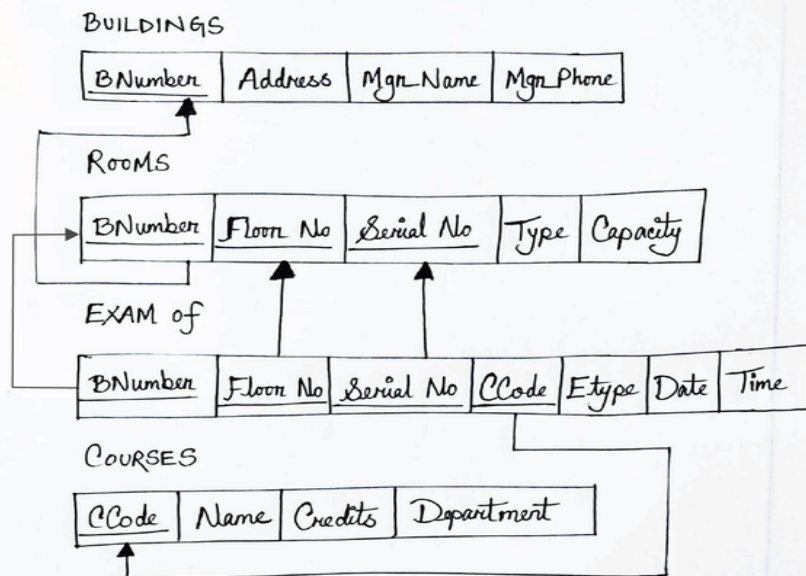
Answer 3:

3



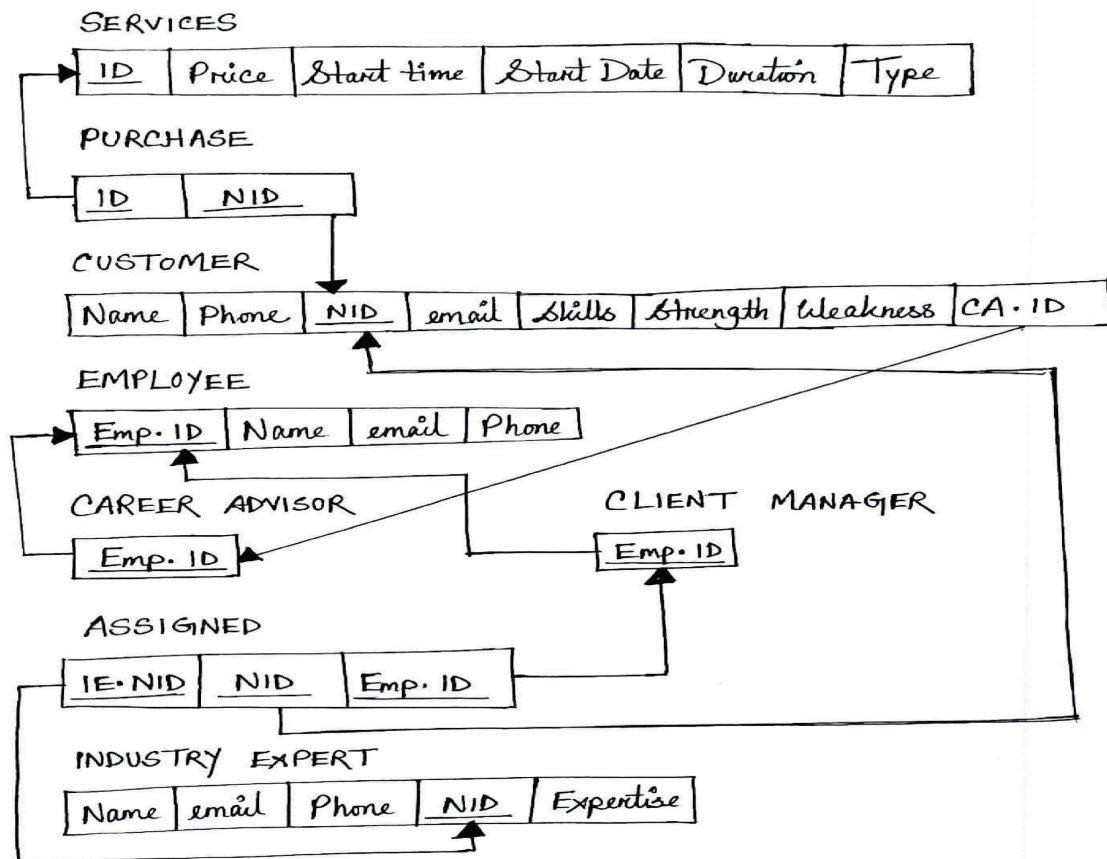
Answer 4:

④



Answer 5:

(5)



Answer 6:

- All options are applicable
- Option 8B is not applicable. The specialization/generalization is partial and 8B is not applicable for partial. Because in 8B we only have tables for subclasses, so if a superclass entity does not belong to any of the subclasses the data for that entity will be lost.
- Option 8B and 8C not applicable. 8B reason same as above. 8C not applicable for overlapping as only 1 type attribute is not sufficient to store complete information if an entity belongs to multiple subclasses.
- 8C not applicable. Reason same as above.