



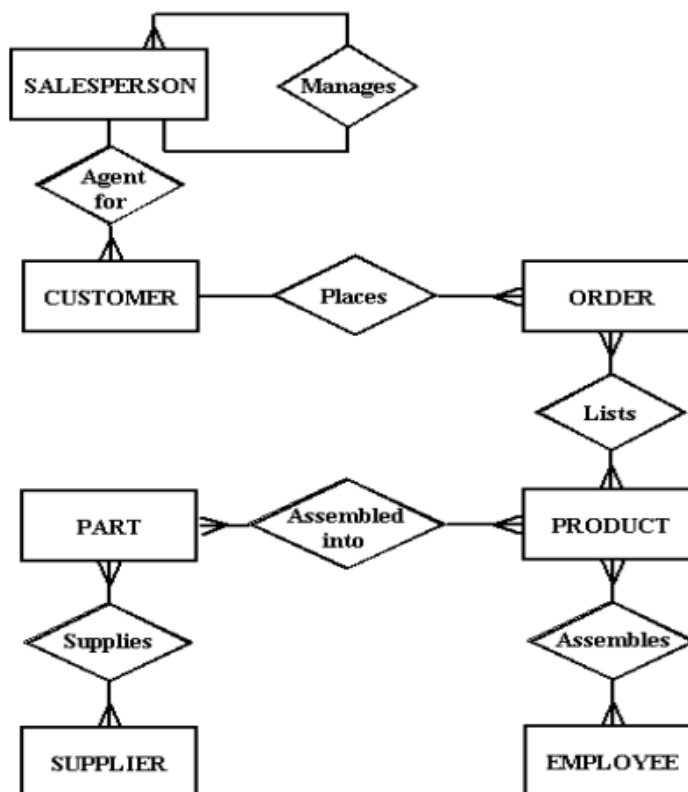
# Iqra National University Computer Science Department

Course Title: Database Systems  
Assignment # 2

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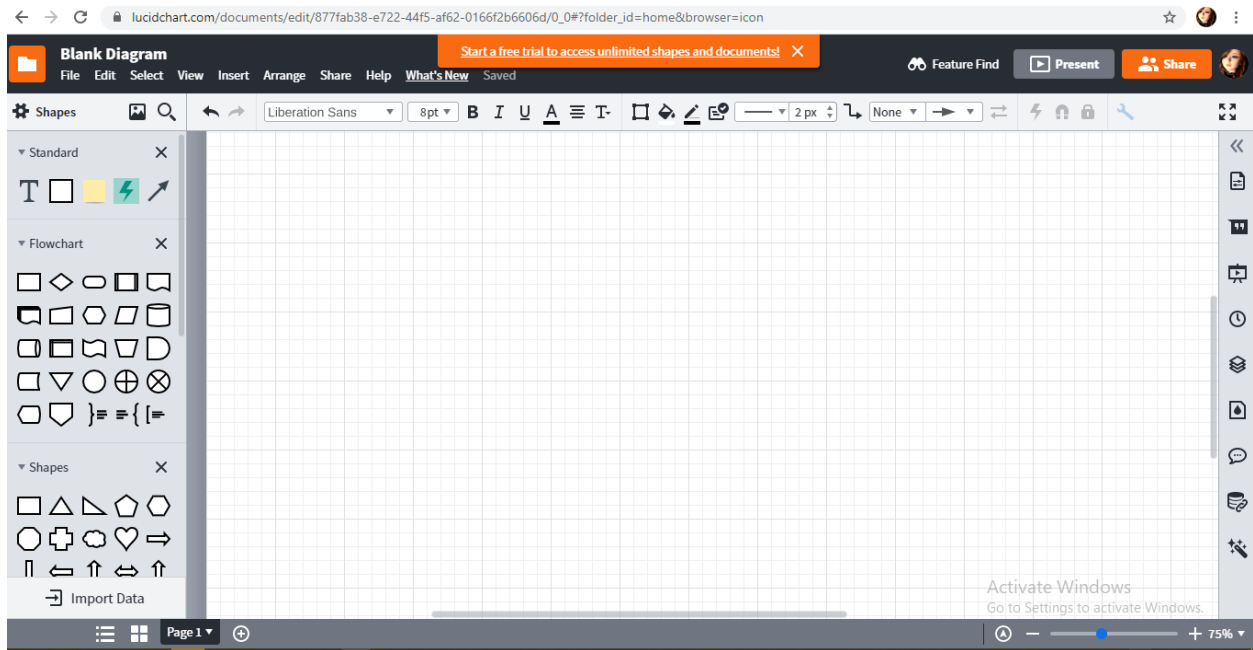
**Q1: Simply Re-draw and take screenshot of below ERD using Lucidchart.com**  
(<https://www.lucidchart.com/pages/er-diagrams>) **Crow's foot notation and based on following business rules.**

A salesperson may manage many other salespeople. A salesperson is managed by only one salespeople. A salesperson can be an agent for many customers. A customer is managed by one salespeople. A customer can place many orders. An order can be placed by one customer. An order lists many inventory items. An inventory item may be listed on many orders. An inventory item is assembled from many parts. A part may be assembled into many inventory items. Many employees assemble an inventory item from many parts. A supplier supplies many parts. A part may be supplied by many suppliers.

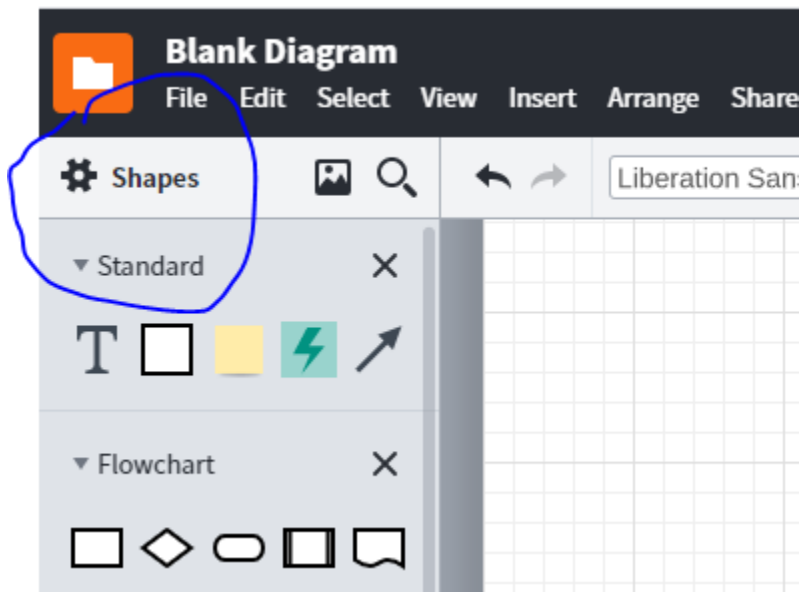


# Solution:

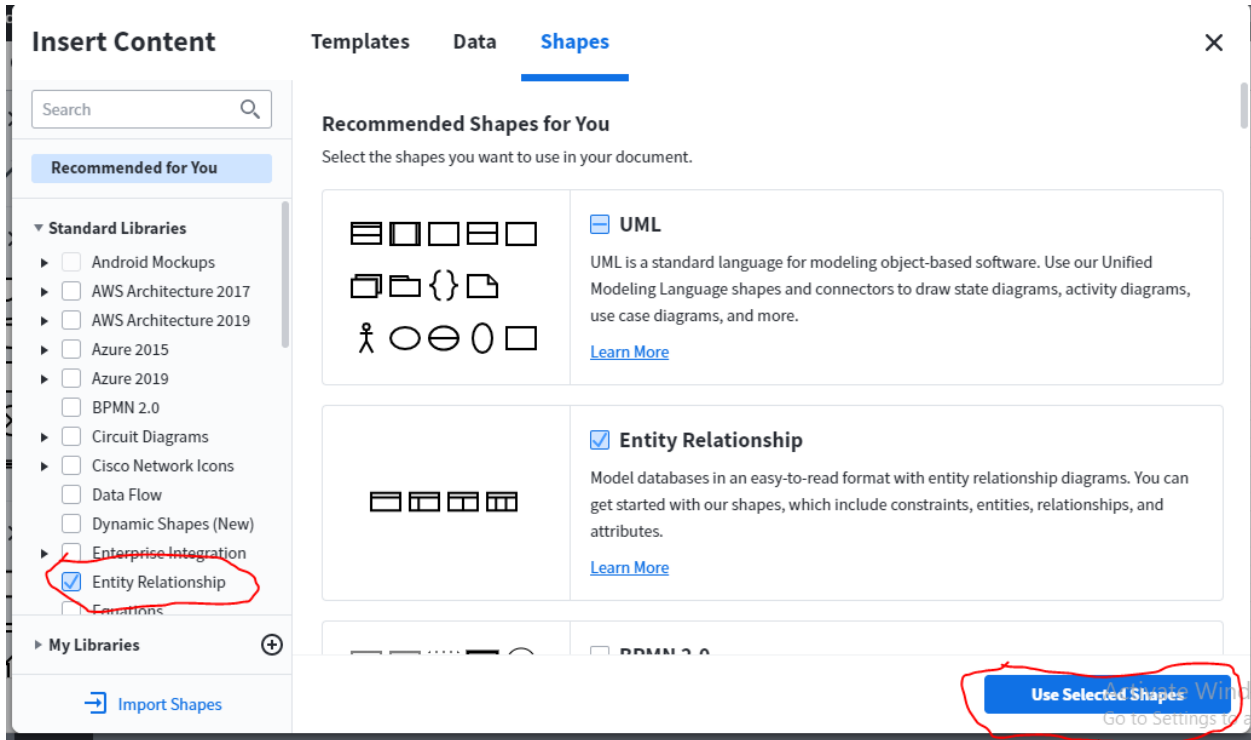
1. Open <https://www.lucidchart.com/pages/er-diagrams>.
2. Sign up.
3. Create blank document.
4. Following page is opened:



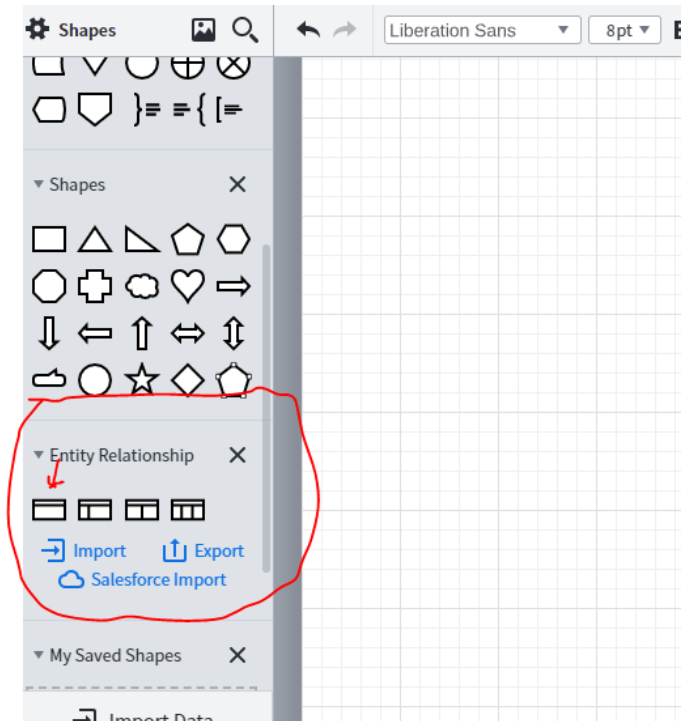
5. At top left click on shape settings icon:



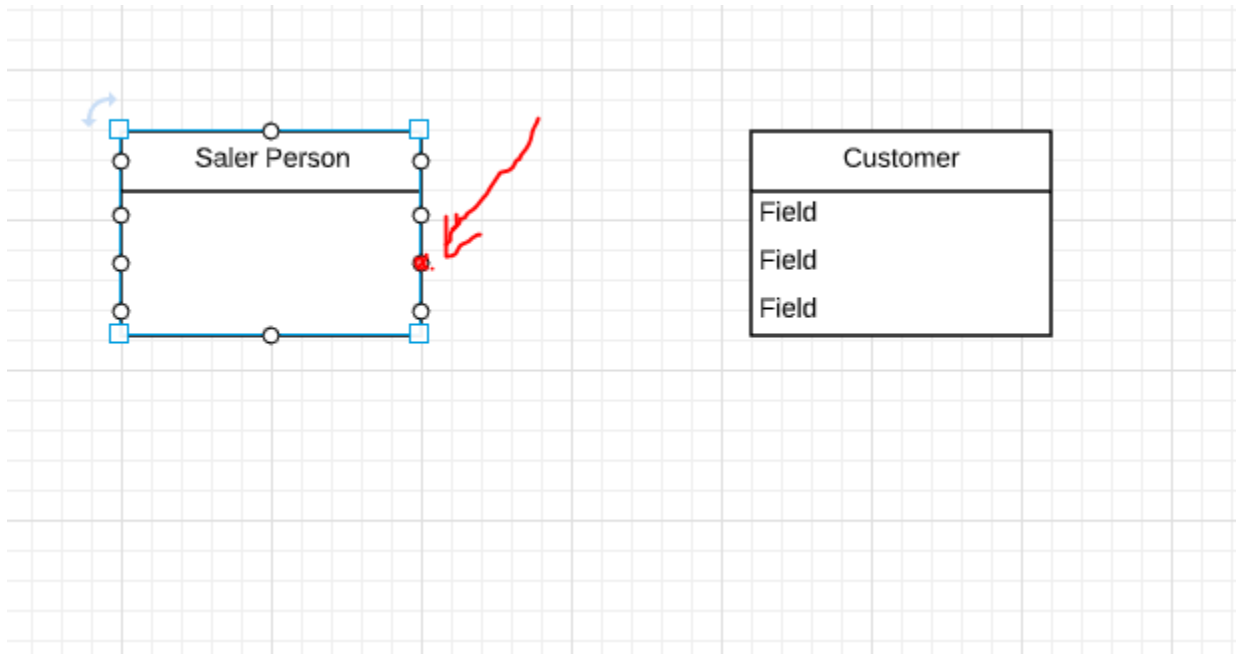
6. Select Entity relation diagram and then click on 'use selected shape'.



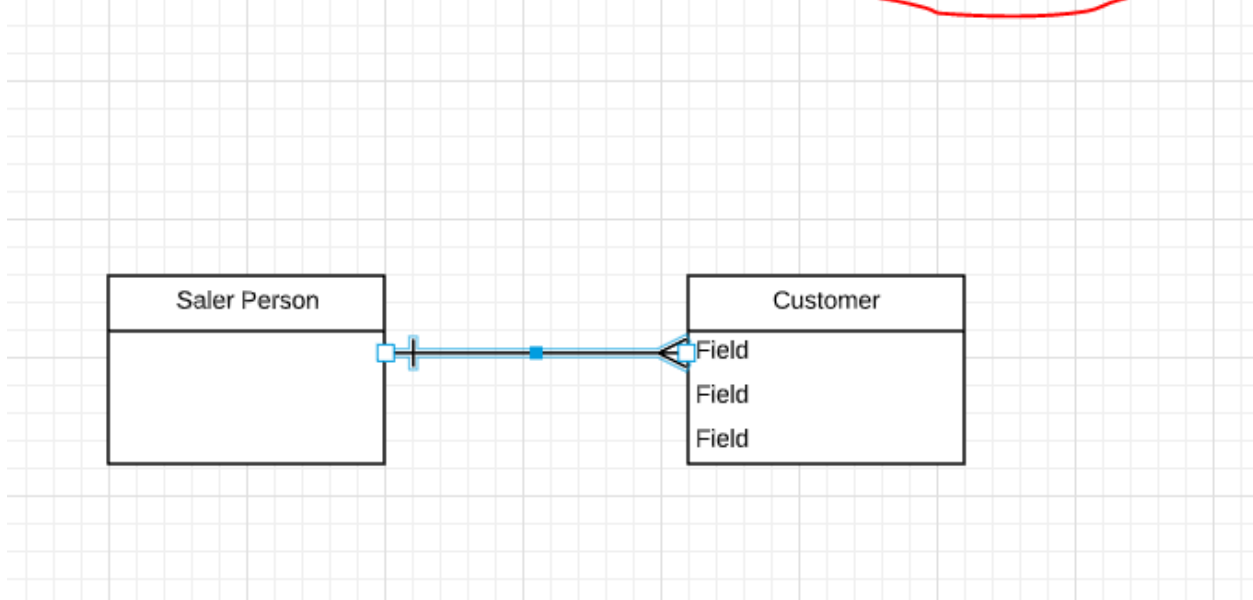
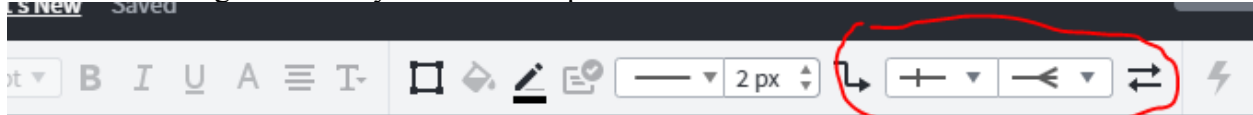
7. Scroll down. Now you can drag drop entities. In this case you do not have attributes of entities so use the first box.



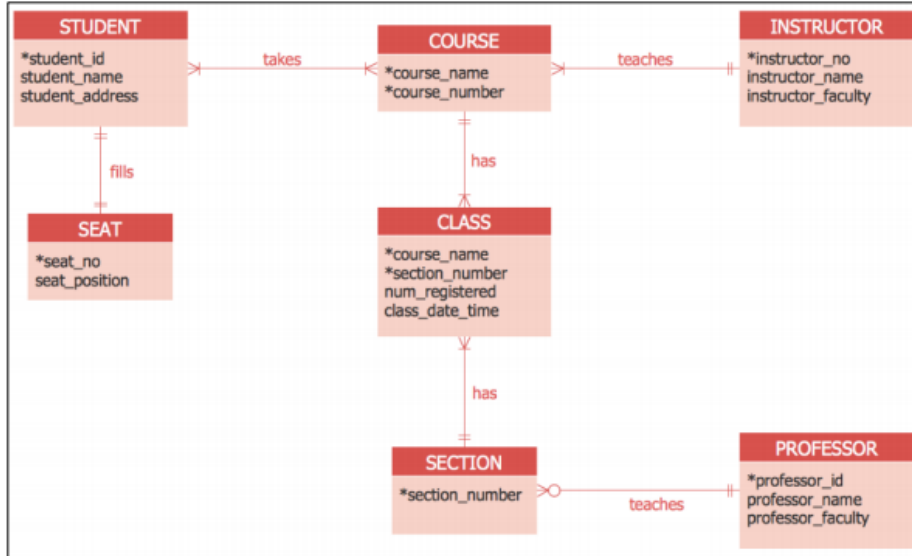
8. Click on red button and drag drop on the other entity to draw the relationship line.



9. You can change cardinality of relationship from here.



**Q2: Following is an Example of ERD which has attributes.**



**Now using the following business rules create your own ERD diagram on paper and take a picture of it. Or create on Lucid chart or on draw.io.**

**Following requirements for a simple database for the National Hockey League (NHL):**

- the NHL has many teams,
- these teams only belong to NHL
- each team has a name, a city, a coach, a captain, and a set of players,
- each player belongs to only one team,
- each player has a name, a position (such as left wing or goalie), a skill level, and a set of injury records
- NHL has an official website.
- The website has a unique URL and title.

## **Solution:**

Tips:

- Give primary key to each entity even if it is not mentioned in the business rule and underline it.
- Multi valued attribute such as skills is represented in {}.
- There is one to one relationship between NHL and website.
- Injury record is a dependent entity. Therefore the relation between them is shown with double lines.

