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 Class \_\_\_\_\_ BS (SE) 4<sup>th</sup> semester  
 Section \_\_\_\_\_ B  
 Course title \_\_\_\_\_ Database  
 Instructor name \_\_\_\_\_ Remsha khan  
 Date \_\_\_\_\_ 4/21/2020

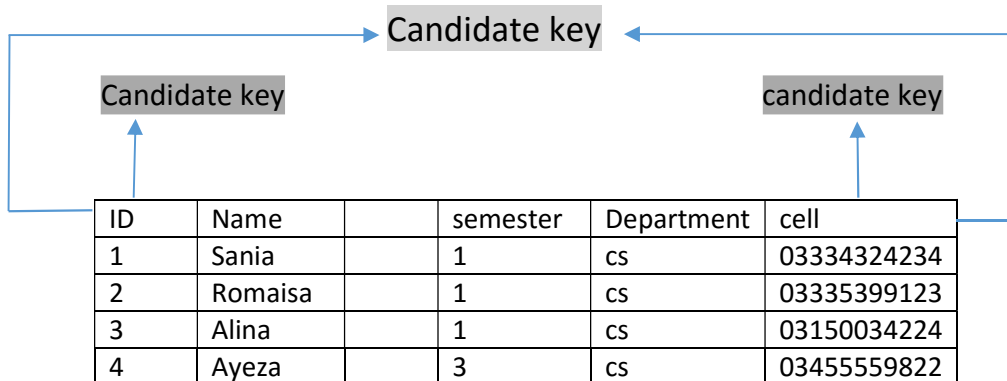
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Question: 1 which attribute in the following table is a candidate key? Assume that no more data will ever be added to this table.

ID	Name	semester	Department	cell
1	Sania	1	cs	03334324234
2	Romaisa	1	cs	03335399123
3	Alina	1	cs	03150034224
4	Ayeza	3	cs	03455559822

Answer: 1 **candidate key**

A candidate key is minimal set of attributes which can uniquely identify a tuple is known as candidate key. For example student id in student relation. The value of candidate key is unique and non-null for every tuple.....for Example student id student sell number in the relation of student.



**Question: 2** what is Data Redundancy and Data Integrity?

**Answer: 2**

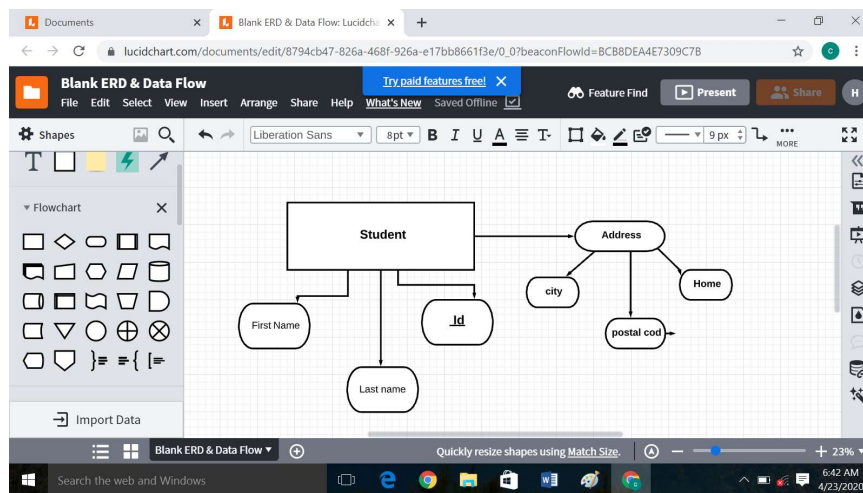
- ❖ **Data redundancy:** Data redundancy is defined as the storing of the same data in multiple locations. An example of data redundancy is saving the same file five times to five different disks.
- ❖ **data integrity:** Data integrity is the maintenance of, and the assurance of the accuracy and consistency of data over its entire life-cycle, and is a

critical aspect to the design, implementation and usage of any system which stores, processes, or retrieves data

**Question 3:** How a multivalued composite attribute is represented in Conceptual Model. Show with example;

**Answer: 3 multivalued composite attributes:**

An attribute that is a combination of other attributes is known as composite attribute. For example, in student entity, the student address is a composite attribute as an address is composed of other attributes such as pin code, state, country.



Example:

**Question 4.** How is there 'reduced maintenance' in database approach?

**Answer 4:** Database maintenance:

Database Maintenance is a term we use to describe a set of tasks that are all run with the intention to improve your database. There are routines meant to help performance, free up disk space, check for data errors, check for hardware faults, update internal statistics, and many other obscure (but important) things.

## Developing Low-Maintenance Databases:

We can get low maintainable database by following the given steps:

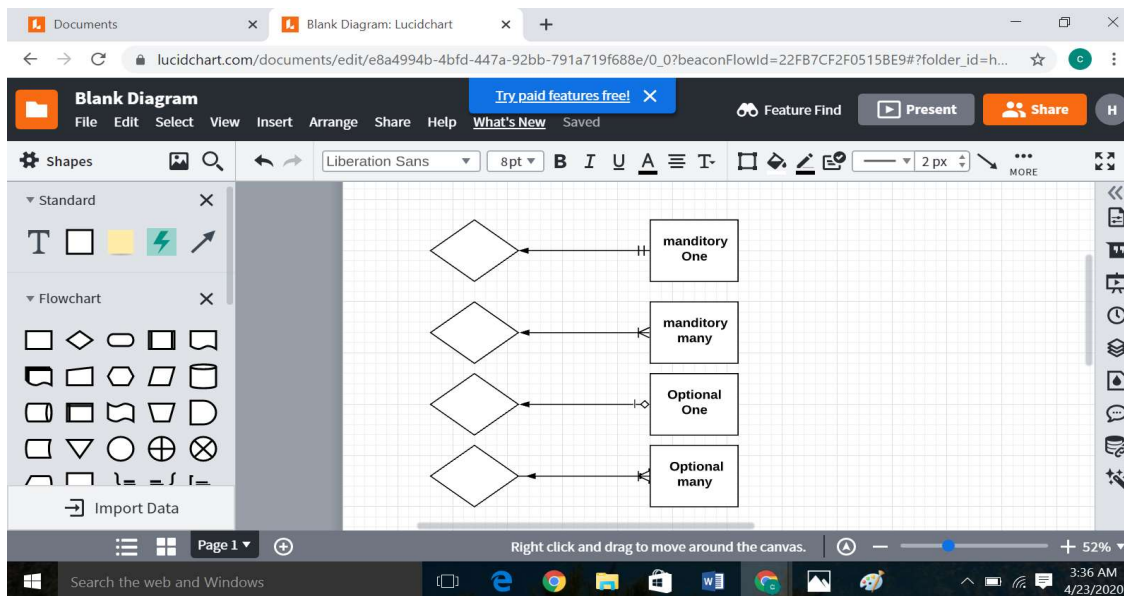
- Fixing bugs and deploying the fixes

- Changing the functionality because the requirements have changed
- Cleaning up the data
- Dealing with concurrency issues; troubleshooting deadlocks, for example
- Speeding up slow queries.

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**Question: 5** how are the following represented using ER Diagram:  
Mandatory one, Mandatory many, Optional one, Optional Many?

**Answer: 5** the following diagram explained the basic symbol  
Mandatory one, Mandatory many, optional one and optional many.



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**Question: 6** Why is there an explicit need of backup in database approach?

**Answer: 6** there is an explicit need of backup in database approach because of virus attacks, accidental deletions, permanent deletion of files, inaccessible partitions, corrupt documents, unexpected system shutdown. And backup a database explicitly is help to **Backups** help to restore computer devices during the process of disaster recovery and restore data after files **have** undergone damage or deletion.

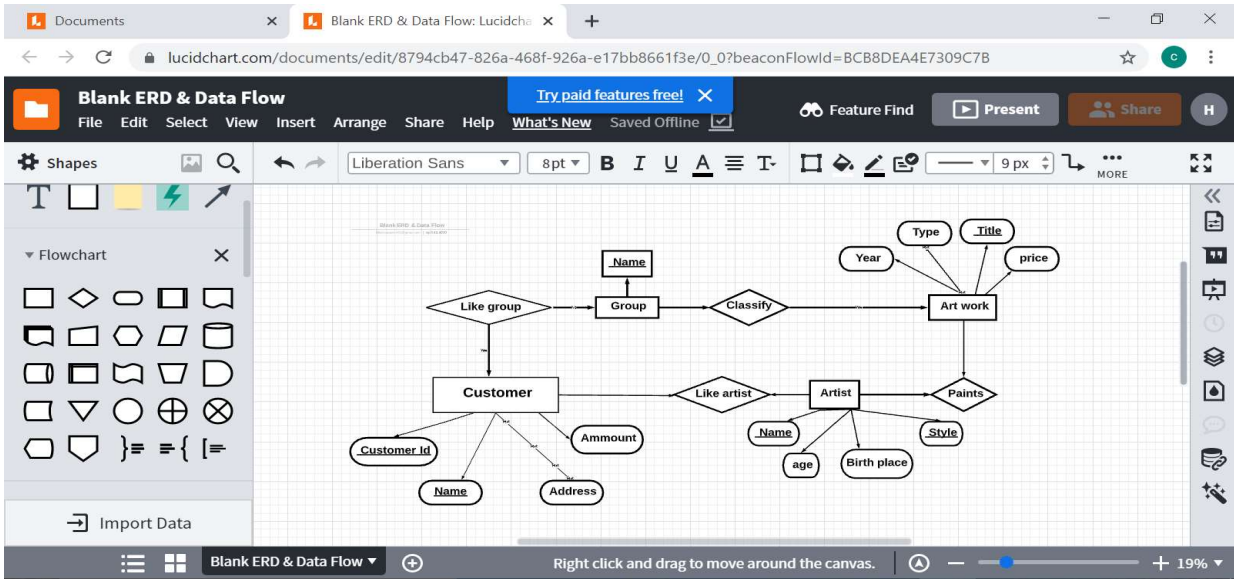
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**2:** Draw an ERD from the following business rules: Use proper notations for the type of attributes (Marks 10)

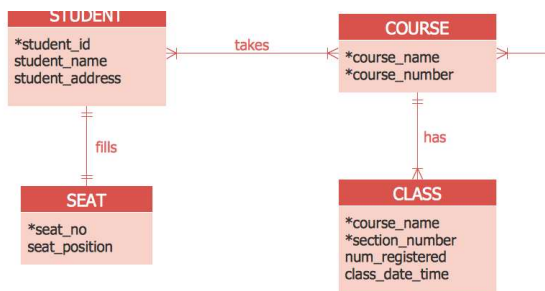
A schema needs to capture all the information that An Art gallery need to maintain.

- The database shall keep information about Artists, their names (which are unique), birthplace, age, and style of art.
- For each piece of artwork, the artist, the year it was made, its unique title, its type of art (e.g. painting lithography, sculpture, photograph), and its price must be stored.
- Pieces of artwork are also classified into groups of various kinds for example, portraits, still lifes, works by Picasso, or works of the 19th century.
- A given piece may belong to more than one group.
- Each group identified by a name that describes the group.
- Finally galleries keep the Customer's unique name, address, total amount of dollars spent in the gallery and the artist and groups of the art that the customer tends to like.

Answer: 2 **ER (Entity relationship) Diagram:**



**Question: 3** convert the following Conceptual Model to Relational Mode



## Relational Diagram:

The screenshot shows a web application interface for creating diagrams. The main workspace contains a table with the following structure:

student	course	Class	Set
Student_ID	course Name	Class_Name	Set_No
Student Name	course_number	Section_Number	Set_position
Address		Num_registerd	

The interface includes a left sidebar with various shapes and tools, a top navigation bar with 'Share', 'Export', and 'Upgrade' buttons, and a bottom status bar showing '85%' zoom.

\*\*\*\*\*THE End\*\*\*\*\*