M□T□W□T□F□S H/W□-C/W□ Dated:...../...../20.....

name # Safiullah

ID # 14677

Semester # 4

Section # B

Subject # Data base system

Instructor # Mam Raimsha Khan

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Q: (i)

Part (i) Ans:

Candidate Key:

Condidate key is a set of atribute that unigly identify tuples in a table candidate key is a super key with no repeated atribute The Primary key should be selected form the candidate keys. Every table must have at least a single candidate key. A table can have multiple candidate key but only a single Primary key.

Properties of Candidate key.

(a) It must contain unige values

(b) candidate key may have multiple attributes

(c) must not contain null values

(d) it should contain minimum feilds to ensure uniquenss

(e) unigly identify each record in a table.

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Example::

In the given table ID. cell are Candidate keys which help us to uniquely identify the Student record in the table.

Candidate

ID	Name	Semester	Department	Cell
1	Sania	1	CS	03334324322
2	Romaisa	1	CS	03[illegible]5399123
3	Alina	1	CS	03150034224
4	Ayeza	3	CS	03455594322

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(2.0) Part (2)

Data integrity.

Data integrity is the process of ensurning the accuracy and consistency of data over its entire life cycle. Data integrity helps to avoid unintentional changes to information moreover, data validation helps to mainian data integrity.

Data Redundancy.

Data redundancy is the replication of data. In the order words, there are copies of the actual data at multiple places it is a data base system.

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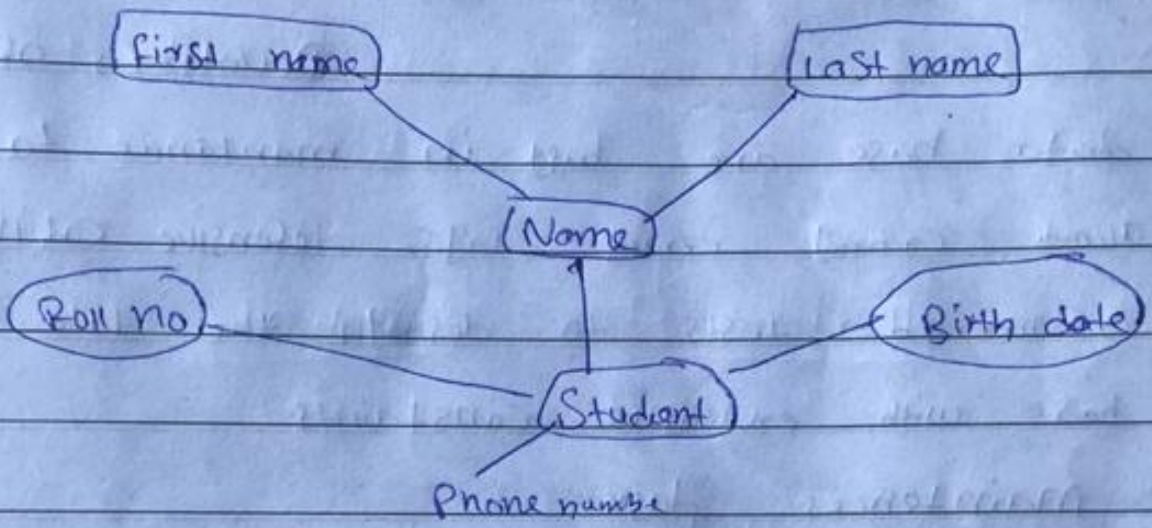
Q:(1) Part (3)

Answer::



- The multivalued composite attribute is represented a, in a above table we have taken a students name id and section it is an example of multivaled.

Q:(1) Part (4)

Answer::

Low mantiance Data base::

Devolper's of data base are busy in mantanice to avoid coding errors 10gs defensive coding automated tests to desing the data base with extensive constaints.

Maintences tasic:

It can just more to maintain as compared to Softwere application So to keep an application in use both devolpers may be forced to spend considerable time on maintance tasks such as:

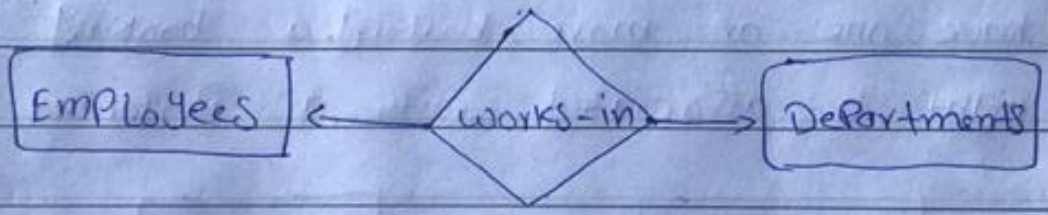
- fixing bugs and devolping the fixes
- changing the functionality be cause the requirments have changed.
- cleaning up the data.
- speding up the slow queries saved either locally or on a backup Serves.

Q.(1) Part (5)

Answer:

Mandatory one:

Relationship exists when zero or one instance of entity A can be associated with zero or one instance of their entity B; and zero or one instance of entity B can be associated with zero or one intance of entity A

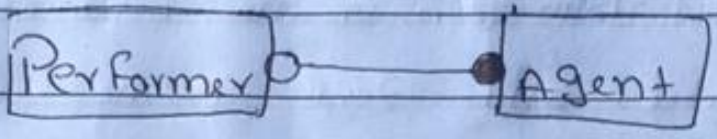


Mandatory many:

In relation database design, a one to many (1:N) relationship exists when, for one instance of entity A, there exists zero, one, or many instances of entity B; But for one intance of entity B; there exist

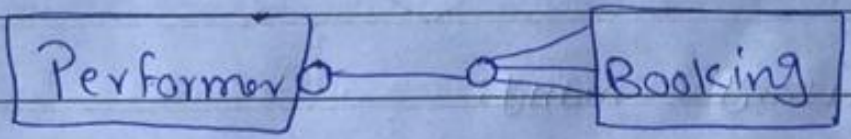
Optional One::

A member of staff does not have to be Placed in a department but all departments must have at least one member of staff



Optional many:

A Performer might have one or more bookings, a booking might be associated with a Performer



In this case a booking could be for an exhibition as it is optional for a booking to involve a Performer, as indicated by the hollow circle. A Performer might decline to accept any bookings, this is acceptable as it is optional for a Performer to have a booking (shown by the hollow circle)

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Q: (1) Part (b)

Answer:

A multivalued attribute can have more than one value at a time for an attribute.

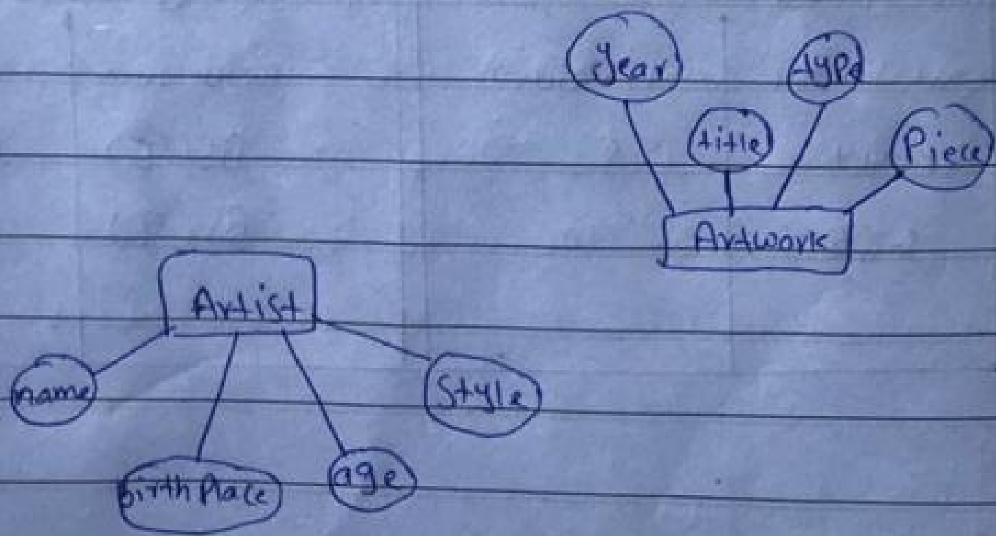
For Example:

The skills of a Surgeon is a multivallad attribute scine a Surgeon can have more than one skill. Another common example is the address field which can have multiple values like zipcode Street address, State, etc.

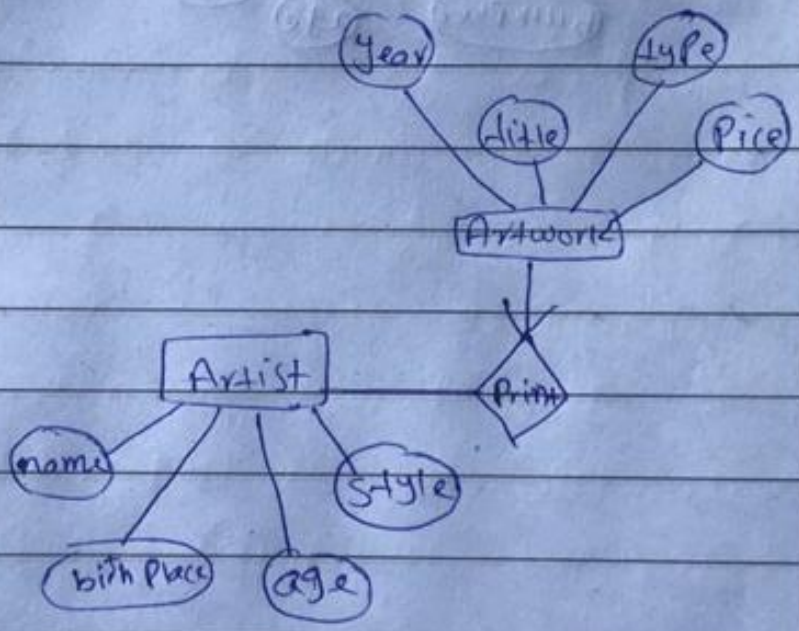
Q. (2)

Ans:-

- You set up a database company Artbase, that bulids a Product for art galleries The Core of the Products is a database with a schema that captures all the information that galleries need to mantaines
- Galleries keep information about artists their names (which are uniqe) birthPlace, age and style of art.
- For each Piece of network, the artiste the year it was made, its unique titels its type of arts (e.g, Painting, lithograph Sculptrue, Photograph) and its Price must be stored.



• Pieces of art work also classfied into groups of various kind, for example Portraits, ~~fith~~ still lifes, work by Picasso or works of the 19th century given Piece may belong to more than one group
• Each group is identifed by a name (like those just given) that describle the group



• finally, galleries keep information about customrs, for each customers galleries keep that Person's unique name address total amount of dollers spents in the gallery (very important)
• and the artists and groups of artists that customer tends to like.

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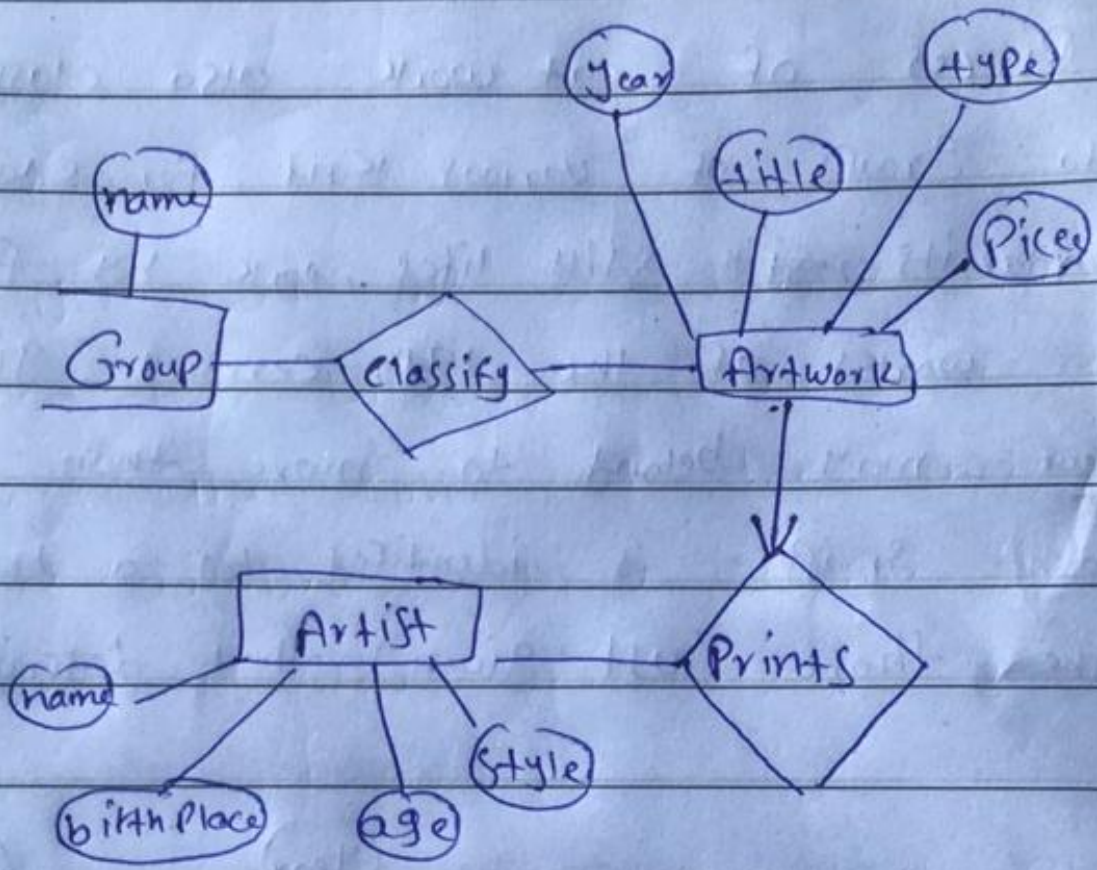

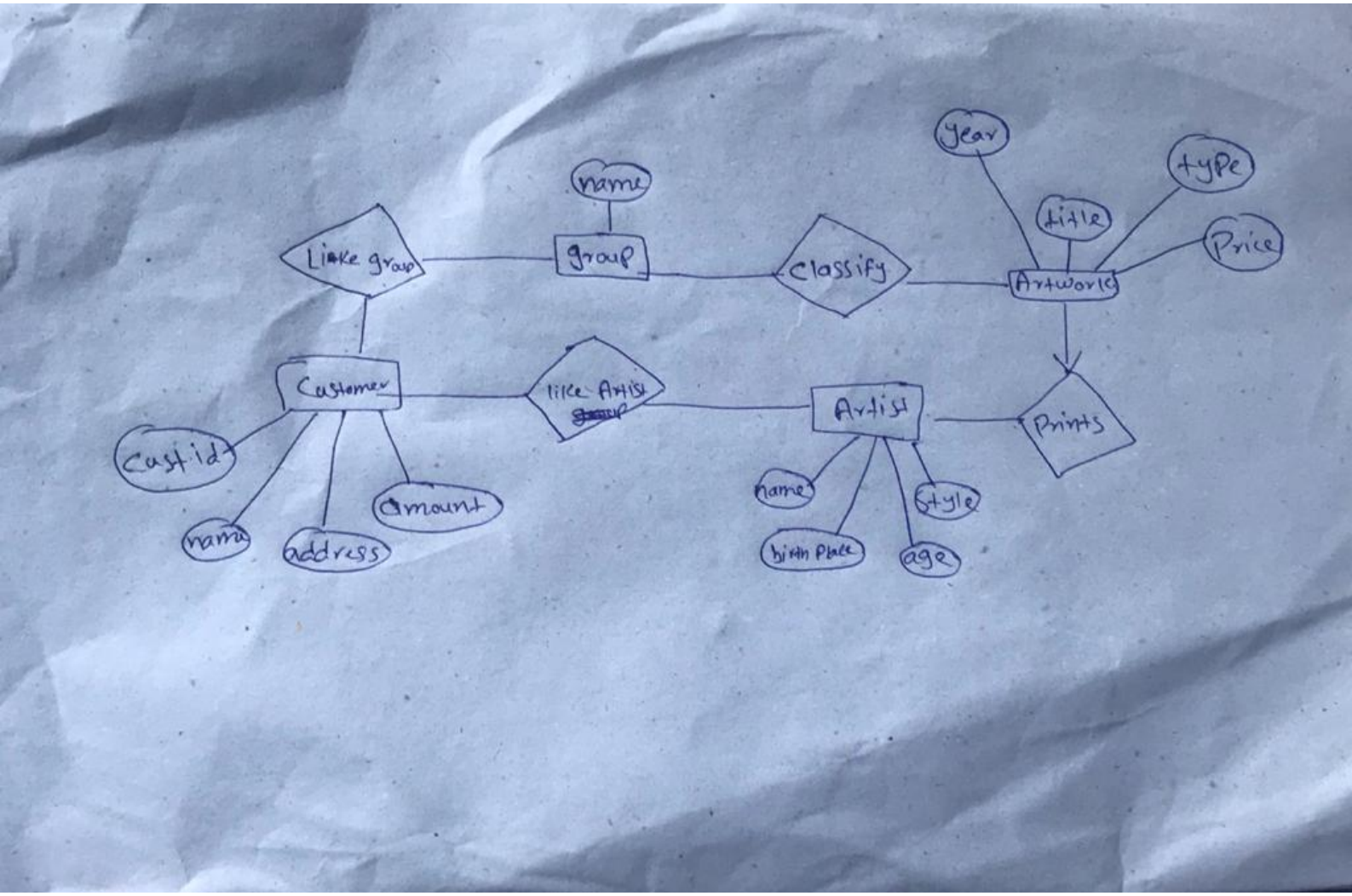
Year
type
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Q:(3) Convert the following conceptual Model to Relational model.

Answer:

Mapping Process:

- Create table for week entity set
- Add all its attributes to table as field
- Add the Primary key of identifying entity set.
- Declare all forgeign key constraints.

Students

Stud: ID	Std name	address
1)	Ali	marden
2)	hamza	lahor

Course

course name	course number
BS. SE	SE4
BS. SE	SE4

SEAT

seat number	set Position
CC44	5
Se 56	10

Class

Course name	section no	num-reg cat-time
BS(SE)	A	5/6/2019
BS(SE)	B	11/4/2019