



Mid Exam Summer

Submitted By:

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BS (SE-8) Section: A

Submitted To:

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**Department of Computer Science,
IQRA National University, Peshawar Pakistan**

Mid Term Assignment Summer 2020

Course Title: Database Systems

Instructor: Rimsha Khan

Total Marks: 30

NOTE: Understanding the paper is part of solving the paper so no questions will be entertained.

INSTUCTIONS:

- 1. Write your names and IDS at top of each paper.**
 - 2. Scan / Take clear photo of each paper and paste it in a word file**
 - 3. Convert word to pdf and upload on SIC.**
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Q 1: Answer the following Short Question in maximum 2 to 3 lines. (16 Marks)

1. What is metadata in Database? Give 1 example (3 Marks)
2. List down the components of database environment? (3 Marks)
- 3 Give 4 examples of database Management System (DBMS). (2 Marks)
4. What is a Data warehouse? (3 Marks)
5. How are the following represented using ER Diagram: Mandatory one, Mandatory many, Optional one, Optional Many? (2 Marks)
6. What are CASE tools on Database Environment? (3 Marks)

Q1:

Part (1)

Answer

Metadata describes different data. Meta means that an underlying definition or description. metadata summarizes basic info regarding data, which may build finding and dealing with specific instances of data easier.

For example, Writer, date thought of, date changed and file size are samples of very basic document metadata. Having the flexibility to filter through that metadata makes it a lot of easier for somebody to find a selected document.

Metadata is used for:

Images, Videos, Spreadsheets, Web pages

Part (2)

Answer

- **Software**
Set of Programs to manage overall database.
- **Hardware**
Include electronic device such as input and output devices etc
- **Database access language**
Used to access data to enter new data, update or retrieve data.
- **Data**
Data is used to store, process and access data.
- **Procedures**
Specific rules to that how to use database and design in database.
- **Run time Database**
It Interfaces with user submitted application programs and queries.
- **Data Manager**
Cache Manager is responsible for handling data in the database.

Part (3)

Answer

Examples of Database management system are given below:

- MySQL
- MS SQL Server
- PostgreSQL
- Oracle

Part (4)

Answer

Data Warehouse:

A Data warehousing (DW) is method for collection and managing data from varied sources to supply meaningful business insights. Data warehouse is usually used to connect and analyze business data from heterogeneous sources. It could be a massive collection of business data used to facilitate a company build choices.

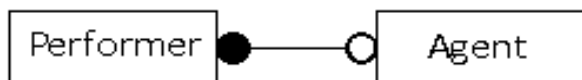
In Other Words data warehousing is a technology that aggregates structured data from one or a lot of sources so that it will be compared and analyzed for bigger business intelligence.

Part (5)

Answer

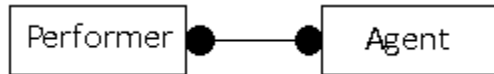
Mandatory One:

It might be possible for agents to make bookings that do not involve performers. Each performer must have an agent, otherwise agent does not have to make booking on behalf of a performer.



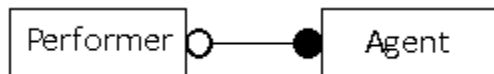
Mandatory Many:

In case that each performer has only one agent, and that all bookings for any one performer must be made by one agent, and that agent may only make bookings for that one performer. The relationship is one-to-one, and both entities must participate in the relationship.



Optional One:

It might be possible for performers to make bookings themselves, without using an agent. The relationship is optional for the performer, but mandatory for the agent.



Optional Many:

Another possibility is that agents may make bookings that do not involve performers; for example, a venue might be booked for an art exhibition. In addition, performers may make bookings themselves, or might have bookings made by an agent, but if a performer has an agent, there must be a one-to-one relationship between them. This relationship is optional for both entities.

If there is a relationship, it will be one-to-one, but it is not compulsory either for the performer or for the agent.

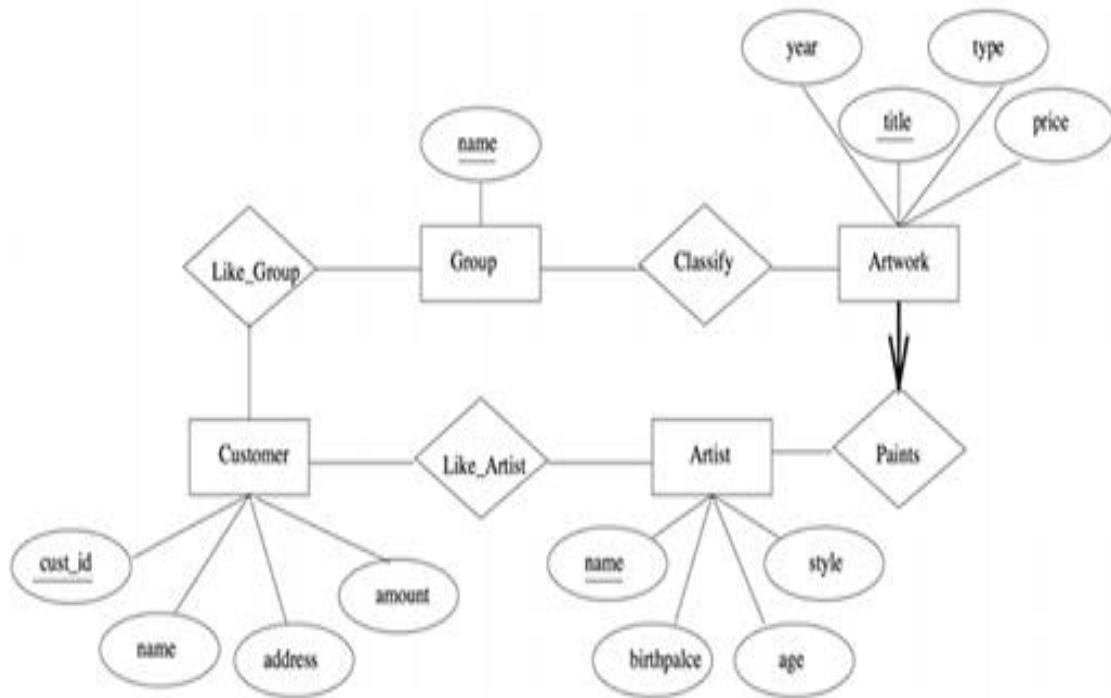
Part (6)

Answer:

CASE Tools:

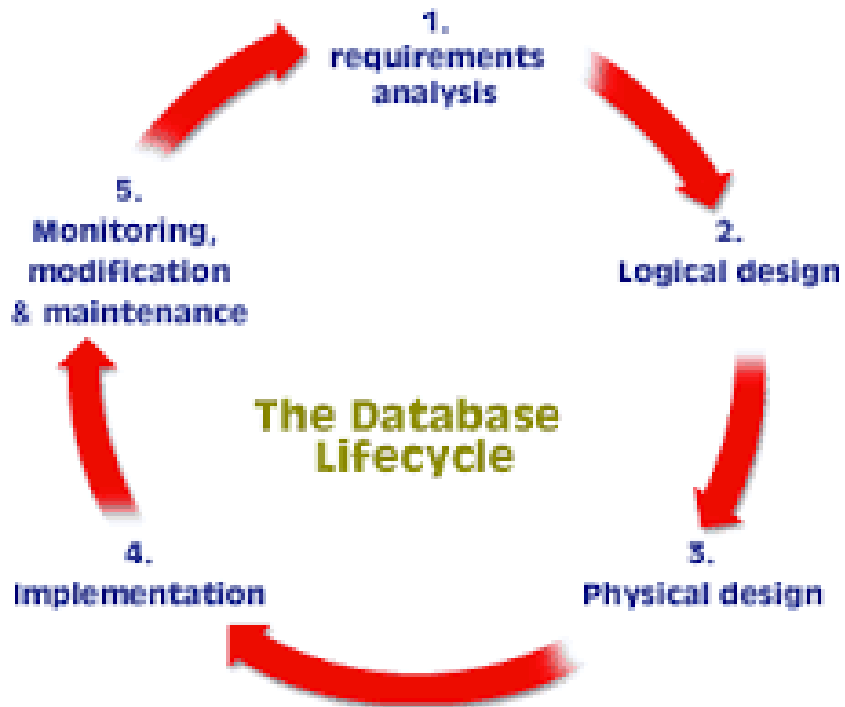
CASE (Computer-Aided Software Engineering) packages are software packages that include many tools that can be helpful when it comes to database design. The main goal of these packages is to give designers a way of representing systems that are too complex to understand in their source code or schema-based forms. They help automate software development and maintenance tasks and usually contain tools for system analysis, project management, and design..

Question No 2:



Question No 3:

a)



b)

Conceptual models are created in analysis phase, while relational models are created in design phase.