

KIGALI 19TH JAN 2024
WORLD MISSION HIGH SCHOOL
L4 SOFTWARE DEVELOPMENT

FUNDEMENTAL OF DATABASE HOMEWORK

Q1. How a Foreign Key Works to Establish a Relationship?

Q2. Describe database abstraction levels?

Q3. List and explain DBMS Methodology?

Q4. Explain the concept of Logical Database Design (LMD) and how it differs from Conceptual Database Design (CMD). Provide examples to illustrate the distinctions between these two levels of database design?

Q5. Explain the concept of indexing in databases.

Q6. What is a foreign key, and how does it relate to relationships in databases?

Q7. Define Physical Database Design (PMD) and discuss its significance in the context of database architecture. How does PMD influence factors such as storage, indexing, and query optimization?

Q8. RWANDA MOTORS needs to have an IT based sales system. During the interview the following

management rules were collected:

A car can be commanded by several customers

☐ A car can be bought just by one client

A bill can contain several cars

Design the CMD and the LMD.

Q8. A car rental company need to hire you to develop a database to help them in the buying and selling operation. Company need to know how many cars bought by how many customer?

A) Draw an ERD to prove the process of buying and selling

B) With the help of cardinalities, prove the transaction process?

C) What type of relationship can you use and why?

Q9. WMH school need a database to store students and other related information, you have been hired to design its database with students, course and teachers table(use your own attribute).

- A) identify Relationship
- B) Identify cardinalities
- C) Make a conclusion about the data interpretation

Q10. Suppose that you are called for interview before being given a task of creating a Database of an institution)(Jtz ltd, then the interviewer asks you the following:

- What do you know about Design methodology?
- In few words, talk about three main phases of database design process.
- Explain rules of naming a variable in database?
- Differentiate functional requirement from non-functional requirement?

END OF HOMEWORK