

DATABASE HOMEWORK

Level: L4

Options: SOD & NIT

Total Questions: 10

Learning Outcome: Analyse Database

SECTION A: Database Fundamentals (Indicative content 1.1)

1. Define the term **Database** and explain **two reasons** why databases are important in modern information systems.
2. Differentiate between the following database concepts:
 - a) Data vs Information
 - b) File-based system vs Database system
3. Identify and briefly explain **four (4) characteristics** of a well-designed database.

SECTION B: Data Dictionary (Indicative content 1.2)

4. What is a **Data Dictionary** in a database system? Explain its role in database management.
5. List and explain **any four (4) components** commonly found in a data dictionary.
6. Using a simple example of a **Student table**, show how a data dictionary would describe:

Field name

Data type

Field size

Description

SECTION C: Database Requirements (Indicative content 1.3)

7. Explain the meaning of **Database Requirements Analysis** and why it is important before designing a database.
8. Identify **three (3) sources** from which database requirements can be collected and briefly explain each.

9. Distinguish between **functional requirements** and **non-functional requirements** in database design, giving **one example** of each.

SECTION D: End of Learning Outcome 1 Assessment

10. A small college wants to store information about **students, courses, and lecturers**.

- a) Identify **four (4) data requirements** for this database system.
- b) State **two (2) problems** that may occur if database requirements are not properly analysed.

N.B: Avoid using AI for every answers will be checked through AI Detector