

A-Level Computer Science

Name: _____ Score: _____

1. Storing a customer's address in several separate files leads to:
 - ☐ data redundancy, which can cause inconsistency
 - ☐ faster queries
 - ☐ automatic backups
 - ☐ better security
2. Each customer can place many orders, but each order belongs to one customer. This relationship is:
 - ☐ one-to-many (1:M)
 - ☐ one-to-one (1:1)
 - ☐ many-to-many (M:N)
 - ☐ no relationship
3. A data dictionary in a DBMS holds:
 - ☐ a description of every table, field, type and key
 - ☐ the actual customer records
 - ☐ the user's passwords
 - ☐ the program source code
4. Which is part of the Data Definition Language (DDL)?
 - ☐ CREATE TABLE
 - ☐ SELECT
 - ☐ UPDATE
 - ☐ INSERT
5. A primary key:
 - ☐ uniquely identifies each record and is never null or duplicated
 - ☐ links to another table
 - ☐ can repeat across records
 - ☐ stores the table's description
6. Which SQL keyword retrieves data from a table? (one word)

7. A field whose value matches the primary key of another table is a _____ key.
- _____
8. Normalising to 3NF stores each fact once and removes update anomalies, at the cost of more tables and joins.
- ☐ True ☐ False
9. In a flat-file system the same data is often duplicated across files, which can become inconsistent when only one copy is updated.
- ☐ True ☐ False
10. A transaction is all-or-nothing: it either fully completes (commit) or fully undoes itself (rollback), so the database is never left half-updated.
- ☐ True ☐ False

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1. data redundancy, which can cause inconsistency

The same data held in many places (redundancy) can be updated separately and become inconsistent.

2. one-to-many (1:M)

One customer → many orders, each order → one customer: a one-to-many relationship.

3. a description of every table, field, type and key

The data dictionary describes the database structure, so programs query it rather than hard-coding the layout.

4. CREATE TABLE

DDL changes the structure (CREATE, ALTER, DROP). SELECT/INSERT/UPDATE/DELETE are DML (working with data).

5. uniquely identifies each record and is never null or duplicated

The primary key uniquely identifies each row. A foreign key is the one that links to another table.

6. SELECT

‘SELECT’ lists the fields to retrieve; ‘FROM’ names the table.

7. foreign

The foreign key is what creates the relationship between two tables.

8. True

That trade-off — cleaner data versus more joins — is why 3NF is the usual target.

9. True

That redundancy and the resulting inconsistency is the core problem the relational model solves.

10. True

This atomicity is why a bank transfer can never debit one account without crediting the other.