

Quiz 4

Databases

18 March 2026

Full name:

You have 10 minutes to answer this quiz, directly on this sheet of paper. No electronic devices or material of any kind is allowed. Do not forget to add your name above. Every question amounts to 2 points; the quiz is graded out of 10 points.

Questions

Q1. Circle the only correct answer.

In an E–R diagram, a relationship set is used to represent:

- a. a piece of information attached to one entity set
- b. an association between entity sets
- c. a key attribute of an entity set
- d. a relation already translated into SQL

Q2. Circle all correct answers (there may be more than one).

Which of the following statements are correct?

- a. A weak entity set has no key of its own and is identified relative to another entity set.
- b. A relationship can have attributes.
- c. In an E–R diagram, every entity set must participate totally in every relationship set.
- d. A many-to-many relationship is usually translated into its own relation.

Q3. Consider the cardinality $(0, \infty)$ on the edge between an entity set and a relationship set. This can also be represented by an annotation N and a single line between the two.

Explain in English what this means.

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Q4. Circle the only correct answer.

In the running example of the lecture, a course section (**Section**) is modeled as a weak entity set because:

- a. each section is taught by at least one teacher
- b. each section has a room
- c. each section is identified relative to a course
- d. each course has at most one section

Q5. Consider the relation schema

`Student(id, name, email, advisor)`

Assume that `id` is a key, that `email` is also unique, and all constraints are consequences of these.

Circle all correct functional dependencies (there may be more than one).

- a. `id → name, email, advisor`
- b. `name → id`
- c. `email → id, name, advisor`
- d. `advisor → id`