

(Free) Sample 8

Taken from:

Question Bank 3: The Relational Model

Knowledge River Ltd



(Free) Sample 8

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The full *Question Bank 3* comprises 36 extended questions and detailed answers covering all aspects of the relational model.

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Below are three examples...

Question: Using the following relation, answer the following questions.

Student

ID	First Name	Surname
1	Bob	Rogers
2	Sue	Brown
3	Pete	Fallon
4	Andy	Unwin
5	Sarah	Gilmore

- What is the name of the relation?
- What is the primary key?
- How many attributes does it have?
- How many tuples does it have?
- What is the degree?
- What is the cardinality?
- What is the domain of the ID column?
- What is the domain of the other columns?

Solution: Using the following relation, answer the following questions.

Student

ID	First Name	Surname
1	Bob	Rogers
2	Sue	Brown
3	Pete	Fallon
4	Andy	Unwin
5	Sarah	Gilmore

- What is the name of the relation? [Student]
- What is the primary key? [ID]
- How many attributes does it have? [3]
- How many tuples does it have? [5]
- What is the degree? [3 = number of columns]
- What is the cardinality? [5 = number of rows]
- What is the domain of the ID column? [integer]
- What is the domain of the other columns? [string or varchar]

Question: Which ONE of the following statements is TRUE?

- Primary keys may contain nulls
- Foreign keys always comprise a single attribute
- Primary keys may contain duplicates
- Foreign keys can never contain nulls
- Primary keys always comprise a single attribute
- Foreign keys may contain duplicates **
- Primary keys represent referential integrity
- Foreign keys represent entity integrity

Solution: Which ONE of the following statements is TRUE?

- Primary keys may contain nulls
- Foreign keys always comprise a single attribute
- Primary keys may contain duplicates
- Foreign keys can never contain nulls
- Primary keys always comprise a single attribute
- Foreign keys may contain duplicates **
- Primary keys represent referential integrity
- Foreign keys represent entity integrity

Question: For each of the Relational Algebra operators, state whether it is UNARY or BINARY, Relation-originated or Set-Theory originated.

Solution: For each of the Relational Algebra operators, state whether it is UNARY or BINARY, Relation-originated or Set-Theory originated.

Selection	Unary, relation-based	Union	Binary, set-based
Projection	Unary, relation-based	Intersection	Binary, set-based
Join	Binary, relation-based	Difference	Binary, set-based
Divide	Binary, relation-based	Cartesian Product	Binary, set-based