NATIONAL UNIVERSITY OF SINGAPORE

SCHOOL OF COMPUTING
FINAL ASSESSMENT FOR
Semester 1 AY2024/2025

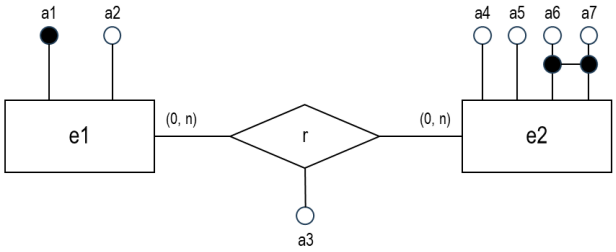
CS2102 Database Systems

September 2024 Time Allowed 120 minutes

INSTRUCTIONS TO CANDIDATES

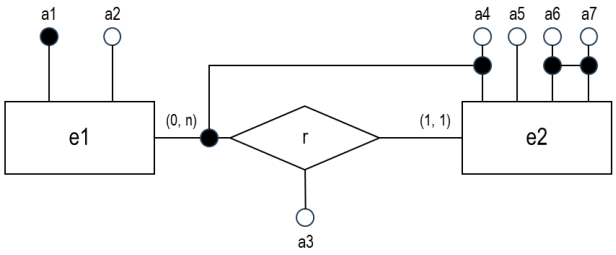
Question on Examplify

MCQ / MRQ



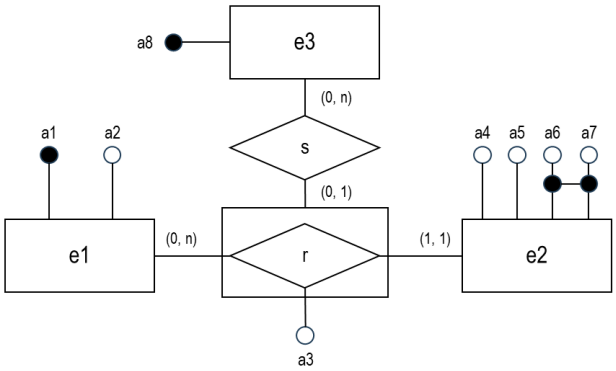
- Q1
  - ✓ The primary key of the table for r is (a1, a6, a7)
  - ✗ The primary key of the table for r is a3
  - ✗ The primary key of the table for e2 is either a6 or a7
  - ✓ The primary key of the table for e1 is a1
  - ✗ a6 is a foreign key in the table for r referencing a6 in the table for e2
  - ✗ a7 is a foreign key in the table for r referencing a7 in the table for e2
  - ✓ a7 is a foreign key in the table for r referencing a7 in the table for e2
  - ✗ a1 is a foreign key in the table for e1 referencing a1 in the table for r

- Q8
  - ✗ The integrity constraints declared in the `CREATE TABLE` statement for the table for r may prevent an insertion into the table for e2.
  - ✓ The integrity constraints declared in the `CREATE TABLE` statement for the table for r may prevent a deletion from the table for e2.
  - ✗ The integrity constraints declared in the `CREATE TABLE` statement for the table for r may prevent a deletion from the table for r.
  - ✓ The integrity constraints declared in the `CREATE TABLE` statement for the table for r may prevent an update to the table for r.
  - ✓ The integrity constraints declared in the `CREATE TABLE` statement for the table for r may prevent an update to the table for e1.



- Q2
  - ✗ a4 is a foreign key in the table for r referencing a4 in the table for e2
  - ✓ a1 is a foreign key in the table for r referencing a1 in the table for e1
  - ✗ a1 is a foreign key in the table for e1 referencing a1 in the table for r
  - ✓ The table for r and the table for e2 are merged into one table
  - ✗ The table for r and the table for e1 are merged into one table

- Q3
  - ✓ A possible primary key of the table for r is (a6, a7)
  - ✗ A possible primary key of the table for r is a4
  - ✓ A possible primary key of the table for r is (a1, a4)
  - ✓ A possible primary key of the table for e2 is (a6, a7)
  - ✓ A possible primary key of the table for e2 is (a1, a4)
  - ✗ A possible primary key of the table for r is (a1, a6, a7)
  - ✗ A possible primary key of the table for r is (a3, a6, a7)



- Q4: How many tables?
  - ✗ 6
  - ✗ 5
  - ✓ 4
  - ✗ 3

- Q5
  - ✓ The primary key of the table for s is (a6, a7)
  - ✗ The primary key of the table for s is (a6, a7, a8)
  - ✗ The primary key of the table for s is (a1, a6, a7)
  - ✗ The primary key of the table for s is (a1, a6, a7, a8)
  - ✗ The tables for r and s are merged into one table
  - ✓ The tables for r and e2 are merged into one table

- Q6
  - ✓ The primary key of the table for r is (a6, a7)
  - ✗ The primary key of the table for r is (a1, a6, a7)
  - ✗ The primary key of the table for r is (a1, a3, a6, a7)
  - ✓ The primary key of the table for e2 is (a6, a7)
  - ✓ The primary key of the table for e1 is a1
  - ✓ The primary key of the table for e3 is a8

- Q7
  - ✓ The foreign key constraints may prevent a deletion in the table for e3
  - ✓ The foreign key constraints may prevent an update to the table for e3
  - ✗ The foreign key constraints may prevent an insertion into the table for e3
  - ✓ The primary key constraints may prevent an insertion into the table for e3
  - ✓ The primary key constraints may prevent an update to the table for e3
  - ✗ The primary key constraints may prevent a deletion in the table for e3

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