

Part C [9 points]

The following schemas describe relations in the sample database in CS:I.

- A) Movie (MovieId:key, Title, Genre, Rating)
- B) Customer (CustomerId:key, Name, Address, CreditCardNumber)
- C) Rents (CustomerId, MovieId, DateRented, DateDue)
- D) NEW $\leftarrow$ SELECT from MOVIE where RATING = "PG"
- E) PGmovies $\leftarrow$ PROJECT MovieId, Title from NEW
- F) TEMP1 $\leftarrow$ JOIN CUSTOMER and RENTS
where CUSTOMER.CustomerId = RENTS.CustomerId
- G) RENTALS $\leftarrow$ PROJECT Name, Address, MovieId from TEMP1
- H) TEMP2 $\leftarrow$ JOIN RENTALS and PGmovies
where RENTALS.MovieId = PGmovies.MovieId
- I) PGrenters $\leftarrow$ PROJECT Name, Address, Title from TEMP2

For each relation below, select its schema from the list above.

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CustomerId	MovieId	DateRented	DateDue	
101	102	08/11/2010	15/11/2010	
103	104	07/11/2010	10/11/2010	
105	1033	04/11/2010	13/11/2010	
102	101	09/11/2010	11/11/2010	
101	104	04/11/2010	14/11/2010	
104	107	05/11/2010	10/11/2010	
103	102	05/11/2010	11/11/2010	
107	7442	06/11/2010	13/11/2010	

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Name	Address	MovieId	MovieId	Title
Dennis Cook	789 Main	102	102	Back to the Future
Dennis Cook	789 Main	104	104	Field of Dreams
Randy Wolf	12 Elm	104	104	Field of Dreams
Randy Wolf	12 Elm	102	102	Back to the Future

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Name	Address	Title
Dennis Cook	789 Main	Back to the Future
Dennis Cook	789 Main	Field of Dreams
Randy Wolf	12 Elm	Field of Dreams
Randy Wolf	12 Elm	Back to the Future

Select one of the following terms to complete each of the following statements.

- | | |
|----------------------------------|---------------------------|
| A) attribute | B) cardinality constraint |
| C) database | D) database engine |
| E) database management system | F) database model |
| G) Entity-relationship modelling | H) ER diagram |
| I) Join | J) key |
| K) physical database | L) Project |
| M) query | N) relation |
| O) relational model | P) schema |
| Q) Select | R) SQL |
| S) subschema | T) tuple |

Place the appropriate **LETTER** in the blank.

- 1) A(n) _____ is a combination of software and data that includes a physical database, a database engine, and a schema. E
- 2) A field is also called a(n) _____. A
- 3) _____ is a database operation to extract attributes from a relation. L
- 4) _____ is a comprehensive database language for managing relational databases. R
- 5) In a(n) _____ data and relationships are organized into tables. O
- 6) A(n) _____ restricts the number of members in a relationship in Access. B