

Name:
Do your own work, state any assumptions necessary.

CS 687 Test 2
February 25, 2003

Student

SID: int	year of birth : int	name : text	zipcode : int
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Course

SID: int	CID : int	Grade : int
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Exam

CID: int	Exam ID : int	Grade : int	Question : text	Answer : text
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```
SELECT name  
FROM Student
```

```
WHERE "year of birth" IN ( SELECT MAX ("year of birth")  
                           FROM Student  
                           GROUP BY zipcode)
```

What does the above query do?

Are the above tables sufficient to record test grades for a course?

- Explain. If it is inadequate propose a change.
- Create a view that allows a student to view the grades of all of their courses. Describe additional changes to the tables, if necessary.

What is the difference between the key word unique as a column constraint and its use as an operator?

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What are the different ways in which a DBMS may choose to implement a view? Describe the advantages and disadvantages of each.

Describe the relational algebra operator, Division:

- a. briefly in words.
- b. as a relational algebra expression without using the division operator.
- c. using a small example.

Describe the entity integrity constraint.

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```
SELECT name  
FROM Student
```

```
WHERE "year of birth" IN ( SELECT MAX ("year of birth")  
FROM Student  
GROUP BY zipcode)
```

What does the above query do?

Are the above tables sufficient to record test grades for a course?

- Explain. If it is inadequate propose a change.
- Create a view that allows a student to view the grades of all of their graduate courses. Describe additional changes to the tables, if necessary.

What is the difference between the key word unique as a column constraint and its use as an operator?

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Describe the relational algebra operator, Division:

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- b. as a relational algebra expression without using the division operator.
- c. using a small example.

Describe the referential integrity constraint.