

Lecture 11 : Database Management System (DBMS)

Question 1: Property of Database Application

Select all common properties for a database application:

~~Usually consists of data with no obvious structure, e.g. a student's essay, a forum post.~~

Usually needs to support many CRUD applications.

May need to support many simultaneous (concurrent) CRUD operations.

Need to ensure robustness in case of unexpected failure.

Question 2: Property of Normalization

What are the properties of normalization (1NF, 2NF and 3NF)?

Normalization is to remove update anomaly.

Normalization is to remove processing anomaly.

~~Normalization is to reduce number of tables.~~

Normalization is to avoid duplicated information as much as possible.

Question 3: Property of Entity-Relationship Diagram

What are the property of entity-relationship diagram?

Entity can have multiple attributes.

~~Entity cannot have more than one identifying attribute(s).~~

~~Relationship can involve only 2 entities.~~

Relationship can have its own attributes.

Question 4: Simple SQL Query

Using the book table from lecture, what is the behaviour of the following SQL query?

```
SELECT authors, pages  
FROM book  
WHERE (price > 50) OR ( title <> 'ABC for Database');
```

~~Results consists of only "authors" and "price" of the book.~~

Results consist of only "authors" and "pages" of the book.

~~Books with price lesser or equal to \$50 CANNOT be part of the results.~~

~~Books with title equal to "ABC for Database" CANNOT be part of the results.~~

~~The query has a syntax error as the criteria consists of columns not used in "select" e.g. "Price" is not selected, nor "title".~~