

Tutorial 2 — Data Definition, Security, Modelling Languages

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Oops! Our user table contains passwords in plaintext! Our table looks like:

```
CREATE TABLE user (  
  id int,  
  name varchar(100) NOT NULL,  
  password varchar(2000) NOT NULL,  
  PRIMARY KEY (id)  
);  
INSERT INTO user VALUES (1, 'Alice', 'abcABC123!@#');
```

How can we modify the user table to replace password with a non-nullable hashedPassword column, containing the result of PASSWORD(password) of each row?

Suppose we have the following instance of the user table. Do the contents suggest any potential security vulnerabilities?

What could we do to improve it?

id	name	hashedPassword
1	Alice	*BEEFBEEFBEEFBEEF
2	Bob	*43F23EBECA12AD31CBA2C1BC2
3	Charlie	*BEEFBEEFBEEFBEEF
4	Donna	*43DBA275606D7A633AC28

Which of the following functions are deterministic?

ABS
COUNT
DATEDIFF
GETDATE
ISNULL
RAND

What could the database schema for the following E-R diagram look like?

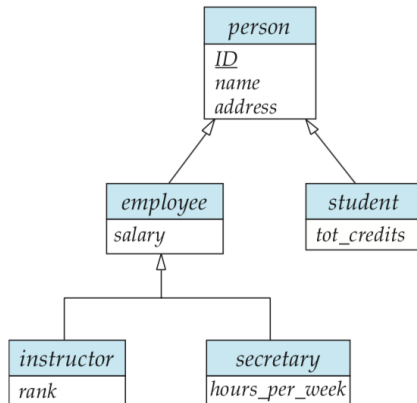


What do the following parts of this diagram mean?

- the solid underline on *course_id*
- the single arrow pointing to *course*
- the double diamond around *sec_course*
- the double lines between *sec_course* and *section*
- the dashed underlines on the attributes of *section*



What could the database schema for the following E-R diagram look like?



What other topics do you want to talk about?