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W4D1 Homework

1. Design the tables in database, attention their relationship and the constraint (primary key, foreign key)

**Users**

create table users(user\_id number(4) primary key not null, user\_name varchar(70), user\_password varchar(70), user\_address varchar(70), user\_contact\_number varchar(12));

**orders**

create table orders(order\_id number(4) primary key not null, item\_id number(4), item\_quantity int, item\_total\_price int, order\_date date, foreign key (item\_id) references orderItem(item\_id));

**orderItem**

create table orders(order\_id number(4) primary key not null, item\_id number(4), item\_quantity int, item\_total\_price int, order\_date date, foreign key (item\_id) references orderItem(item\_id));

create table orderItem(item\_id number(4) primary key not null, item\_name varchar(50), item\_price int, item\_stocks int);

1. What are DQL, DML, DDL and DCL for Database? And what their commands? And give examples for each one based the above tables “User”, “Order” and “OrderItem”.

**DQL (**Data Query Language)

These are the commands in SQL that are used to retrieve data from the database

**Select**:

* select \* from users where user\_name like '%a%';
* select \* from orders where order\_total\_price >= 2500;
* select \* from orderItem where item\_stocks > 10;

**DML** (Data Manipulation Language)

These are the commands in SQL that are used to insert, modify and delete data from or into the database.

**Insert**: add data into the database

* insert into users(user\_id, user\_name, user\_password, user\_address, user\_contact\_number) values('1', 'jaybee', 'vergara', 'zhuhai hotel', '09353232323');
* insert into users(user\_id, user\_name, user\_password, user\_address, user\_contact\_number) values('2', 'aica', 'flores', 'gong bei', '09342322354');
* insert into users(user\_id, user\_name, user\_password, user\_address, user\_contact\_number) values('3', 'melvin', 'yu', 'macau', '09092333434');
* insert into orderItem(item\_id, item\_name, item\_price, item\_stocks) values('1', 'Bag', '1000', '10');
* insert into orderItem(item\_id, item\_name, item\_price, item\_stocks) values('2', 'Shoes', '800', '8');
* insert into orderItem(item\_id, item\_name, item\_price, item\_stocks) values('3', 'Shirt', '500', '15');
* insert into orders(order\_id, user\_id, item\_id, order\_quantity, order\_total\_price, order\_date) values ('1', '2', '1', '5', '5000', to\_date('01-07-2016', 'dd-mm-yyyy'));
* insert into orders(order\_id, user\_id, item\_id, order\_quantity, order\_total\_price, order\_date) values ('2', '3', '3', '3', '1500', to\_date('02-07-2016', 'dd-mm-yyyy'));
* insert into orders(order\_id, user\_id, item\_id, order\_quantity, order\_total\_price, order\_date) values ('3', '1', '2', '4', '3200', to\_date('03-07-2016', 'dd-mm-yyyy'));

**Update**: modify data in the database

* update users set user\_address = 'philippines' where user\_address in('macau', 'gong bei');
* update orderItem set item\_name = 'cap' where item\_name = 'Bag';

**Delete**: remove data from the database

* delete from users where user\_id = '3';
* delete from orderItem where item\_price > 800;

**DCL**

The commands of SQL that are used to control the access to data stored in the database are collectively called as DCL and examples include Grant and Revoke.

**Grant**: All users access previleges to database.

GRANT CONNECT, RESOURCE TO tutor;

**Rollback**: removes or ignores all the “insert” and “update”

rollback;

**Commit**: persist all the “insert” and “update”

commit;

**DDL**

Create: used to create database and its Objects like tables, index, stored procedure, views , triggers, functions and etc.

**Create**: To create users, orders, and orderId table.

* create table users(user\_id number(4) primary key not null, user\_name varchar(70), user\_password varchar(70), user\_address varchar(70), user\_contact\_number varchar(12));
* create table orders(order\_id number(4) primary key not null, user\_id number(4), item\_id number(4), order\_quantity int, order\_total\_price float, order\_date date, foreign key (item\_id) references orderItem(item\_id), foreign key (user\_id) references users(user\_id));
* create table orderItem(item\_id number(4) primary key not null, item\_name varchar(50), item\_price float, item\_stocks int);

**Alter**: Alter command is used to create database and its Objects.

* alter table orders drop column order\_date;
* alter table users drop column user\_contact\_number;

**Drop**: deletes objects from database.

* drop table users;
* drop table orders;
* drop table orderItem;

**Truncate**: Used to remove all records from a table, including all spaces allocated for records are removed.

* truncate table users;
* truncate table orders;
* truncate table orderItem;