# Hexaware Technologies LTD Foundation Training Program SQL Coding Challenge

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# **Challenge: Order Management System**

#### Problem Statement:

- 1. Create a base class called **Product** with the following attributes:
- productId (int)
- productName (String)
- description (String)
- · price (double)
- · quantityInStock (int)

#### Query:

create database sql\_Coding\_challenge; use sql\_coding\_challenge; drop database sql\_Coding\_challenge;

-- Products Table

create table product (productId int primary key,productName varchar(255),description text, price decimal(10,2), quantityInStock int);



- 3. Create a subclass *Electronics* that inherits from *Product*. Add attributes specific to electronics products, such as:
- brand (String)
- warrantyPeriod (int)

#### Query:

-- Electronics Table

create table electronics (productId int primary key,brand varchar(255),warrantyPeriod int, foreign key (productId) references product(productId));

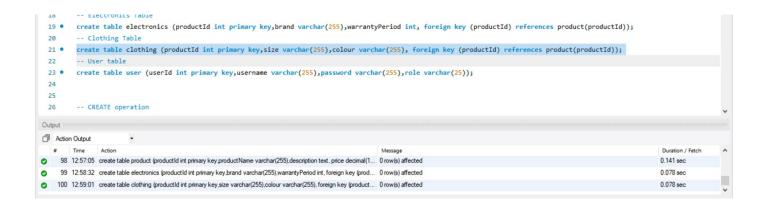


- 4. Create a subclass *Clothing* that also inherits from *Product*. Add attributes specific to clothing products, such as:
- size (String)
- color (String)

#### Query:

-- Clothing Table

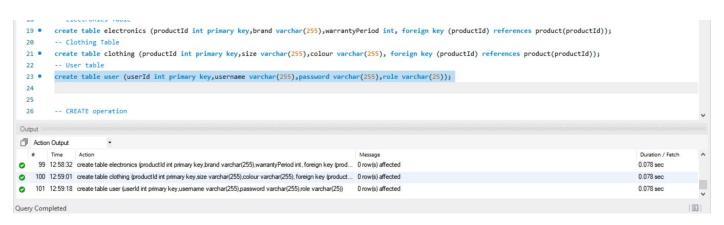
create table clothing (productId int primary key,size varchar(255),colour varchar(255), foreign key (productId) references product(productId));



- 5. Create a **User** class with attributes:
- userId (int)
- · username (String)
- password (String)
- role (String) // "Admin" or "User"

#### Query:

create table user (userId int primary key, username varchar(255), password varchar(255), role varchar(25));



#### \*\*\*\*\*Trainer Task\*\*\*\*

# \*Perform Create,Read,Update and Delete(CRUD) operation on the above table.

-- CREATE operation

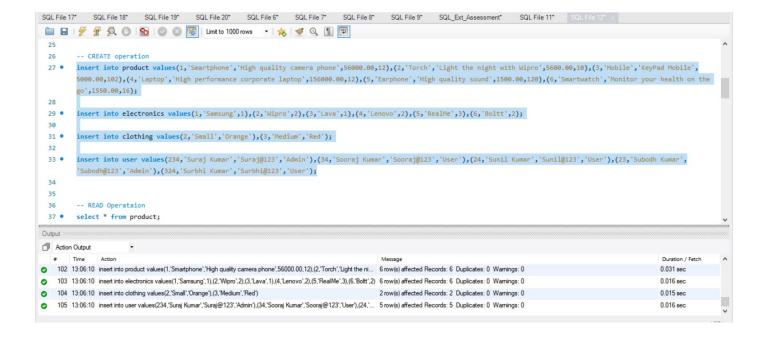
insert into product values(1,'Smartphone','High quality camera phone',56000.00,12),(2,'Torch','Light the night with Wipro',5600.00,10),(3,'Mobile','KeyPad Mobile',5000.00,102),(4,'Laptop','High performance corporate laptop',156000.00,12),(5,'Earphone','High quality sound',1500.00,120),(6,'Smartwatch','Monitor your health on the go',1550.00,16);

insert into electronics

values(1,'Samsung',1),(2,'Wipro',2),(3,'Lava',1),(4,'Lenovo',2),(5,'RealMe',3),(6,'Boltt',2);

insert into clothing values(2,'Small','Orange'),(3,'Medium','Red');

insert into user values(234,'Suraj Kumar','Suraj@123','Admin'),(34,'Sooraj Kumar','Sooraj@123','User'),(24,'Sunil Kumar','Sunil@123','User'),(23,'Subodh Kumar','Subodh@123','Admin'),(324,'Surbhi Kumar','Surbhi@123','User');

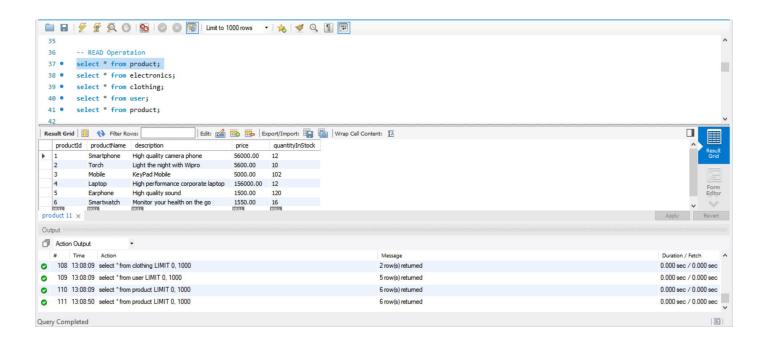


#### -- READ Operation

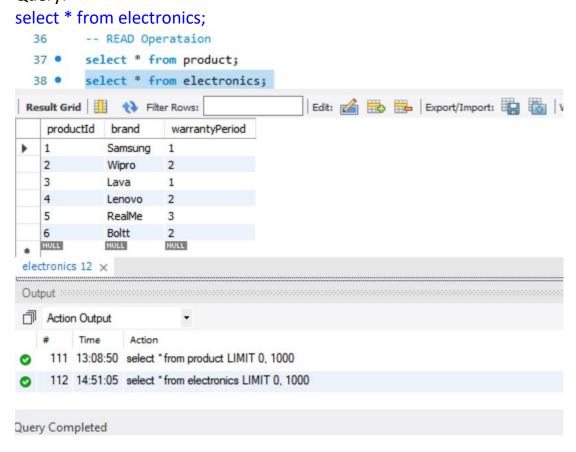
#### Query:

--Read all data from product table

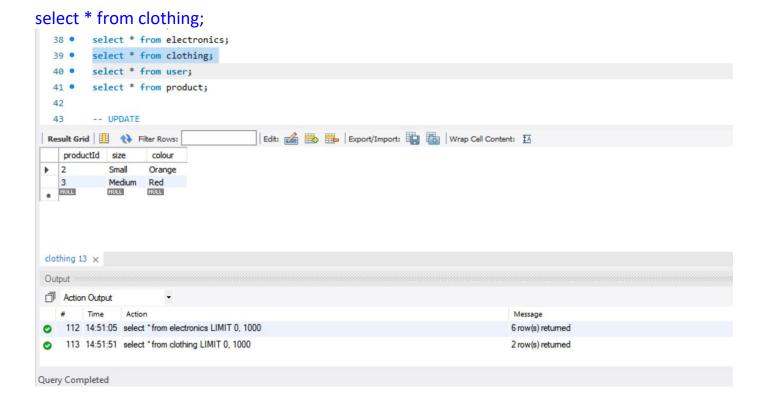
select \* from product;



-- Read all data from electronics table Query:

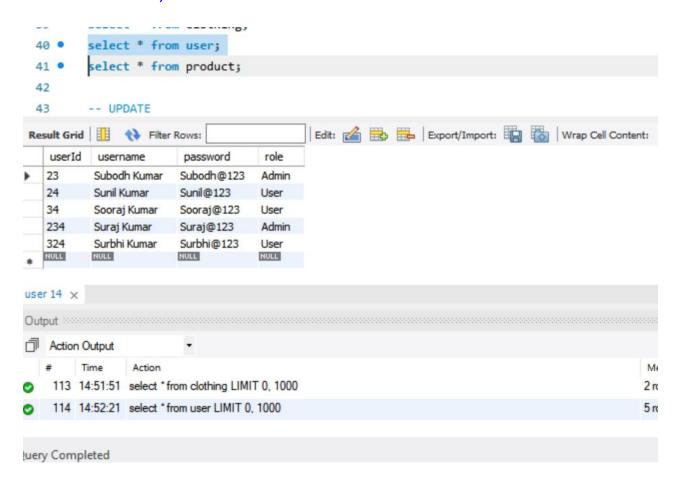


-- Read all data from Clothing table Query:



# -- Read all data from User table Query:

#### select \* from user;



# -- UPDATE Operation

Query: Update in the Product table.

update product set productName ='Shirt', description='Full-Sleeve Shirt' where productId=2; update product set productName ='t-Shirt', description='Half-Sleeve t-shirt' where productId=3;

```
42
            update product set productName ='Shirt', description='Full-Sleeve Shirt' where productId=2;
   44 .
            update product set productName ='t-Shirt', description='Half-Sleeve t-shirt' where productId=3;
   45
   46 • update electronics set brand='ONN' where productId=2;
   47 •
           update electronics set brand='Jack&Jones' where productId=3;
 Output
 Action Output

    110 13:08:09 select *from product LIMIT 0, 1000

                                                                                                             6 row(s) returned
     111 13:08:50 select * from product LIMIT 0, 1000
                                                                                                             6 row(s) returned

    112 14:51:05 select *from electronics LIMIT 0, 1000

                                                                                                             6 row(s) returned
    113 14:51:51 select *from clothing LIMIT 0, 1000
                                                                                                             2 row(s) returned

    114 14:52:21 select *from user LIMIT 0, 1000

    115 14:53:57 update product set product Name = 'Shirt', description='Full-Sleeve Shirt' where product Id=2
                                                                                                             1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0
 116 14:53:57 update product set productName =t-Shirt', description="Half-Sleeve t-shirt' where productId=3
                                                                                                             1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0
Query Completed
```

# **Query**: Update in the Electronics table update electronics set brand='ONN' where productId=2; update electronics set brand='Jack&Jones' where productId=3;

```
update electronics set brand='ONN' where productId=2;
   46 •
             update electronics set brand='Jack&Jones' where productId=3;
   47 •
   48
   49 •
             update clothing set colour='Yellow' where productid=2;
   50
   51 •
            update user set role='User' where userid=23;
   52
 Output
 Action Output

    112 14:51:05 select *from electronics LIMIT 0, 1000

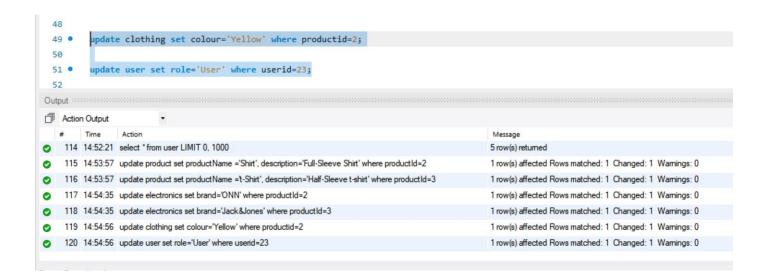
                                                                                                                 6 row(s) returned
    113 14:51:51 select * from clothing LIMIT 0, 1000
                                                                                                                 2 row(s) returned

    114 14:52:21 select *from user LIMIT 0, 1000

                                                                                                                 5 row(s) returned
     115 14:53:57 update product set productName ='Shirt', description='Full-Sleeve Shirt' where productId=2
                                                                                                                 1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0
    116 14:53:57 update product set productName =t-Shirt', description="Half-Sleeve t-shirt' where productId=3
                                                                                                                 1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0
     117 14:54:35 update electronics set brand='ONN' where productId=2
                                                                                                                 1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0
     118 14:54:35 update electronics set brand='Jack&Jones' where productId=3
                                                                                                                 1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0
Query Completed
```

Query: Update in the Clothing and user table update clothing set colour='Yellow' where productid=2;

update user set role='User' where userid=23;



#### -- DELETE Operation

\*\* Instructions: First we need to disable the foreign key check constraint to delete data and maintain referential integrity constraint.

To disable the foreign key check constraint we can run the following query:

```
set foreign_key_checks = 1;
Also
```

We can drop the foreign key(referential integrity constraint) from the Electronics and Clothing table by running the following query:

We first select the constraint name from the information schema.

SELECT constraint\_name FROM information\_schema.table\_constraints WHERE table\_name = 'electronics' AND constraint type = 'FOREIGN KEY';

Then we drop the constraint by their name

alter table electronics drop foreign key electronics\_ibfk\_1;

## Query: Delete from the product table

## delete from product where productid=3;

```
-- DELETE
   53
   54 • set foreign_key_checks = 0;
   55 • SELECT constraint_name FROM information_schema.table_constraints WHERE table_name = 'electronics' AND constraint_type = 'FOREIGN KEY';
   56 • alter table electronics drop foreign key electronics_ibfk_1;
   58
   59
   60 • delete from product where productid=3;
  61 • select * from product;
           delete from electronics where productid=3;
 Output :
 Action Output
 119 14:54:56 update clothing set colour='Yellow' where productid=2
                                                                                                         1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0
 20 14:54:56 update user set role="User" where userid=23
                                                                                                         1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0
 121 15:12:47 delete from product where productid=3
                                                                                                         Error Code: 1451. Cannot delete or update a parent row: a foreign key constraint fails ('sql_coding_challe...
 122 15:12:57 set foreign_key_checks = 1
 2 123 15:13:03 delete from product where productid=3
                                                                                                         Error Code: 1451. Cannot delete or update a parent row: a foreign key constraint fails ('sql_coding_challe...
    124 15:13:15 set foreign_key_checks = 0
                                                                                                         0 row(s) affected
 125 15:13:30 delete from product where productid=3
                                                                                                         1 row(s) affected
Query Completed
```

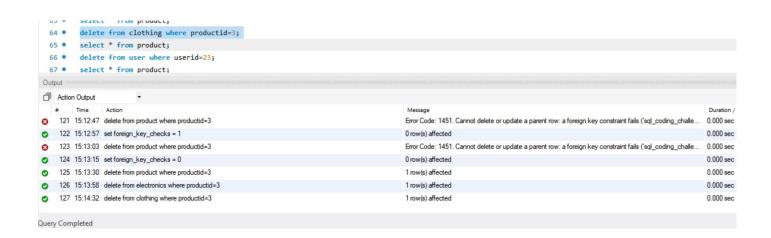
# Query: Delete from the Electronics table:

# delete from electronics where productid=3;

```
61 • select * from product;
  62 •
          delete from electronics where productid=3;
  63 • select * from product;
  64 • delete from clothing where productid=3;
  65 • select * from product;
  66 • delete from user where userid=23;
  67 •
          select * from product;
Output :
Action Output
   # Time
                 Action
120 14:54:56 update user set role="User" where userid=23
                                                                                                         1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0
121 15:12:47 delete from product where productid=3
                                                                                                        Error Code: 1451. Cannot delete or update a parent row: a foreign key constraint fails ('sql_coding_challe.
122 15:12:57 set foreign_key_checks = 1
23 15:13:03 delete from product where productid=3
                                                                                                        Error Code: 1451, Cannot delete or update a parent row: a foreign key constraint fails ('sgl coding challe...
124 15:13:15 set foreign_key_checks = 0
    125 15:13:30 delete from product where productid=3
                                                                                                        1 row(s) affected
126 15:13:58 delete from electronics where productid=3
                                                                                                        1 row(s) affected
Query Completed
```

## Query: Delete from the Clothing table

## delete from clothing where productid=3;



# Query: Delete from the User table

# delete from user where userid=23;

