

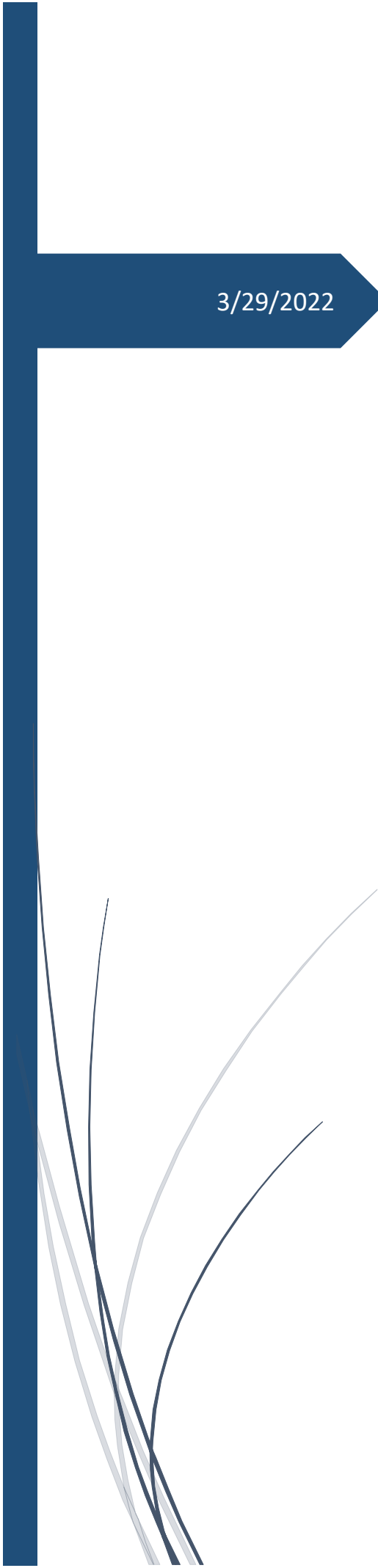


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INTE 12213

Object Oriented Programming

Lab Exercises 07



IM/2019/021
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INTE 12213– Object Oriented Programming

Lab Exercises 07

Interfaces

```
Welcome to Inventory Management System

Please select the relevant option

1.Add product to inventory
2.View current inventory
3.Delete object from inventory
4.Update the furniture table
5.Update the electronics table

Note: Manufacture_ID is unique id which automatically generates through every manufacturing event
```

1

```
Please select the category
1.Electronic
2.Furniture
```

1

```
1
What is the type:
fish
Who is the manufacture:
fisherman
```

2

```
2
What is the type:
tin
Who is the manufacture:
ton
```

2

1

2

Please select the category , 1 for electronics and 2 for furniture

1

manufacture_id = 2,manufacture_name = 234,type = 356

manufacture_id = 3,manufacture_name = 342,type = 345

manufacture_id = 4,manufacture_name = sam,type = min

manufacture_id = 5,manufacture_name = 45,type = 2

manufacture_id = 6,manufacture_name = fisherman,type = fish

2

2

manufacture_id = 1,manufacture_name = ton,type = tin

3

3

If you want to delete electronic press 1 and If you want to delete furniture press 2

1

Enter a valid manufacture id

2

Then the row gets deleted from the database

4

4

Enter a valid manufacture id

1

Enter 1 if you want to update type , Enter 2 if you want to update manufacture name

1

Enter type

356

Then the Row gets updated

5

5

Enter a valid manufacture id

2

Enter 1 if you want to update manufacture name, Enter 2 if you want to update type

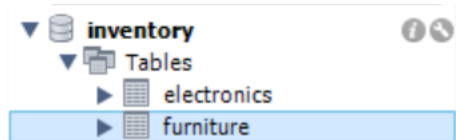
2

Enter type

min

Then the Row gets updated

Database-SQL



Database Design

• Furniture Table

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
manufacture_id	INT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
manufacture_name	VARCHAR(45)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
type	VARCHAR(45)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	manufacture_id	manufacture_name	type
▶	1	ton	tin
	NULL	NULL	NULL
*			

• Electronics table

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
manufacture_id	INT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
manufacture_name	VARCHAR(45)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
type	VARCHAR(45)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	manufacture_id	manufacture_name	type
▶	3	342	345
	4	sam	min
	5	45	2
	6	fisherman	fish
*	NULL	NULL	NULL

Database-JAVA

DatabaseConnector.java File

```
package com.company;
import java.sql.Connection;
import java.sql.DriverManager;
public class DatabaseConnector {

    public Connection databaseLink;

    public Connection getConnection() {
        String databaseName="inventory";
        String databaseUser="root";
        String databasePassword="root";
        String url="jdbc:mysql://localhost/"+databaseName;
        try{
            Class.forName("com.mysql.cj.jdbc.Driver");
            ///////////////
            databaseLink=DriverManager.getConnection(url,databaseUser,databasePassword);
        }catch (Exception exception){
            exception.printStackTrace();
            exception.getCause();
        }
        return databaseLink;
    }
}
```

CRUD operations

//Adding Products to inventory

```
var connectNow= new DatabaseConnector();
Connection connectDB = connectNow.getConnection();

String insertFields= "INSERT INTO furniture( manufacture_name,type) VALUES ('";

String insertValues= manufactureName+"', '"+type+"'";
String insertToAdd= insertFields+insertValues;

try{
    Statement statement = connectDB.createStatement();
    statement.executeUpdate(insertToAdd);

    System.out.println("so far success");
}catch(Exception exception){
    exception.printStackTrace();
}
```

//Updating the furniture table from inventory

```
System.out.println("Enter a valid manufacture id");
manufactureID = scanner.nextInt();
System.out.println("Enter 1 if you want to update type , Enter 2 if you want to update manufacture name");
int number2 = scanner.nextInt();
if(number2==1){
    System.out.println("Enter type");
    scanner.nextLine();
    String manufactureName= scanner.nextLine();
    var connectNow= new DatabaseConnector();
    Connection connectDB = connectNow.getConnection();
    String updateFields= "UPDATE furniture SET manufacture_name ='";
    String updateValues = manufactureName + "'"+" WHERE " + "manufacture_id =" + manufactureID+"";
    String updateDB=updateFields+updateValues;
    try{
        Statement statement = connectDB.createStatement();
        statement.executeUpdate(updateDB);
    }catch(Exception exception){
        // exception.printStackTrace();
    }
}
```

```
System.out.println("Enter type");
scanner.nextLine();
String type= scanner.nextLine();
var connectNow= new DatabaseConnector();
Connection connectDB = connectNow.getConnection();

String updateFields= "UPDATE furniture SET type ='";
String updateValues = type + "'"+" WHERE " + "manufacture_id =" + manufactureID+"";
String updateDB=updateFields+updateValues;

try{
    Statement statement = connectDB.createStatement();
    statement.executeUpdate(updateDB);
}catch(Exception exception){
    // exception.printStackTrace();
}
}
```

//Updating the electronics table from inventory

```
else if (number == 5){
    System.out.println("Enter a valid manufacture id");
    manufactureID = scanner.nextInt();
    System.out.println("Enter 1 if you want to update manufacture name, Enter 2 if you want to update type");
    int number2 = scanner.nextInt();

    if(number2==1){
        System.out.println("Enter type");
        scanner.nextLine();
        String manufactureName= scanner.nextLine();
        var connectNow= new DatabaseConnector();
        Connection connectDB = connectNow.getConnection();
        String updateFields= "UPDATE electronics SET manufacture_name ='";
        String updateValues = manufactureName + "'"+" WHERE " + "manufacture_id =" + manufactureID+"";
        String updateDB=updateFields+updateValues;
        try{
            Statement statement = connectDB.createStatement();
            statement.executeUpdate(updateDB);
        }catch(Exception exception){
            // exception.printStackTrace();
        }
    }
}
```

```
}else if(number2==2){

    System.out.println("Enter type");
    scanner.nextLine();
    String type= scanner.nextLine();
    var connectNow= new DatabaseConnector();
    Connection connectDB = connectNow.getConnection();

    String updateFields= "UPDATE electronics SET type ='";
    String updateValues = type + "'"+" WHERE " + "manufacture_id =" + manufactureID+"";
    String updateDB=updateFields+updateValues;

    try{
        Statement statement = connectDB.createStatement();
        statement.executeUpdate(updateDB);
    }catch(Exception exception){

    }

    // exception.printStackTrace();

}
```

//Deleting object from inventory

```
else if (number == 3){
System.out.println("If you want to delete electronic press 1 and If you want to delete furniture press 2 ");
int number4= scanner.nextInt();

if(number4==1){
    System.out.println("Enter a valid manufacture id");
    manufactureID = scanner.nextInt();

    String removeFields ="DELETE FROM electronics WHERE manufacture_id="+manufactureID+";" ;

    var connectNow= new DatabaseConnector();
    Connection connectDB = connectNow.getConnection();

    try{
        Statement statement = connectDB.createStatement();
        statement.executeUpdate(removeFields);

    }catch(Exception exception){

        // exception.printStackTrace();

    }
}
```

//Viewing Products from inventory

```
var connectNow1= new DatabaseConnector();
Connection connectDB1 = connectNow1.getConnection();
String insertFields= "SELECT * FROM furniture;";

try{
    Statement statement= connectDB1.createStatement();
    ResultSet queryOutput = statement.executeQuery(insertFields);

    while(queryOutput.next()){
        Integer queryManufactureID=queryOutput.getInt( columnLabel: "manufacture_id");
        String queryManufactureName=queryOutput.getString( columnLabel: "manufacture_name");
        String queryType=queryOutput.getString( columnLabel: "type");

        System.out.println("manufacture_id = "+queryManufactureID+" , "+"manufacture_name = "+queryManufactureName+
            " , "+"type = "+queryType);
    }

}catch (SQLException exception){
    //
}
```

Code

<https://github.com/DiYaZeN/Inventory-Managemet-Interface.git>