I/o Lab1

DecoratorTest.java | Circle.java

```java
package Lab1;
public class Circle implements Shape{

    @Override
    public void draw() {
        System.out.println("Shape: Circle");
    }

}
```

ShapeDecorator.java

```java
package Lab1;

public abstract class ShapeDecorator implements Shape{
    protected Shape shape;
    public ShapeDecorator(Shape shape){
        this.shape = shape;
    }

    @Override
    public void draw(){
        shape.draw();
    }
}
```

RedShape.java

```java
package Lab1;


public class RedShape extends ShapeDecorator{
    public RedShape(Shape shape) {
        super(shape);
    }

    @Override
    public void draw() {
        shape.draw();
        System.out.println("Border Color: Red");
    }
}
```

Rectangle.java

```java
package Lab1;


public class Rectangle implements Shape{

    @Override
    public void draw() {
        System.out.println("Shape: Rectangle");
    }
}
```

DecoratorTest.java

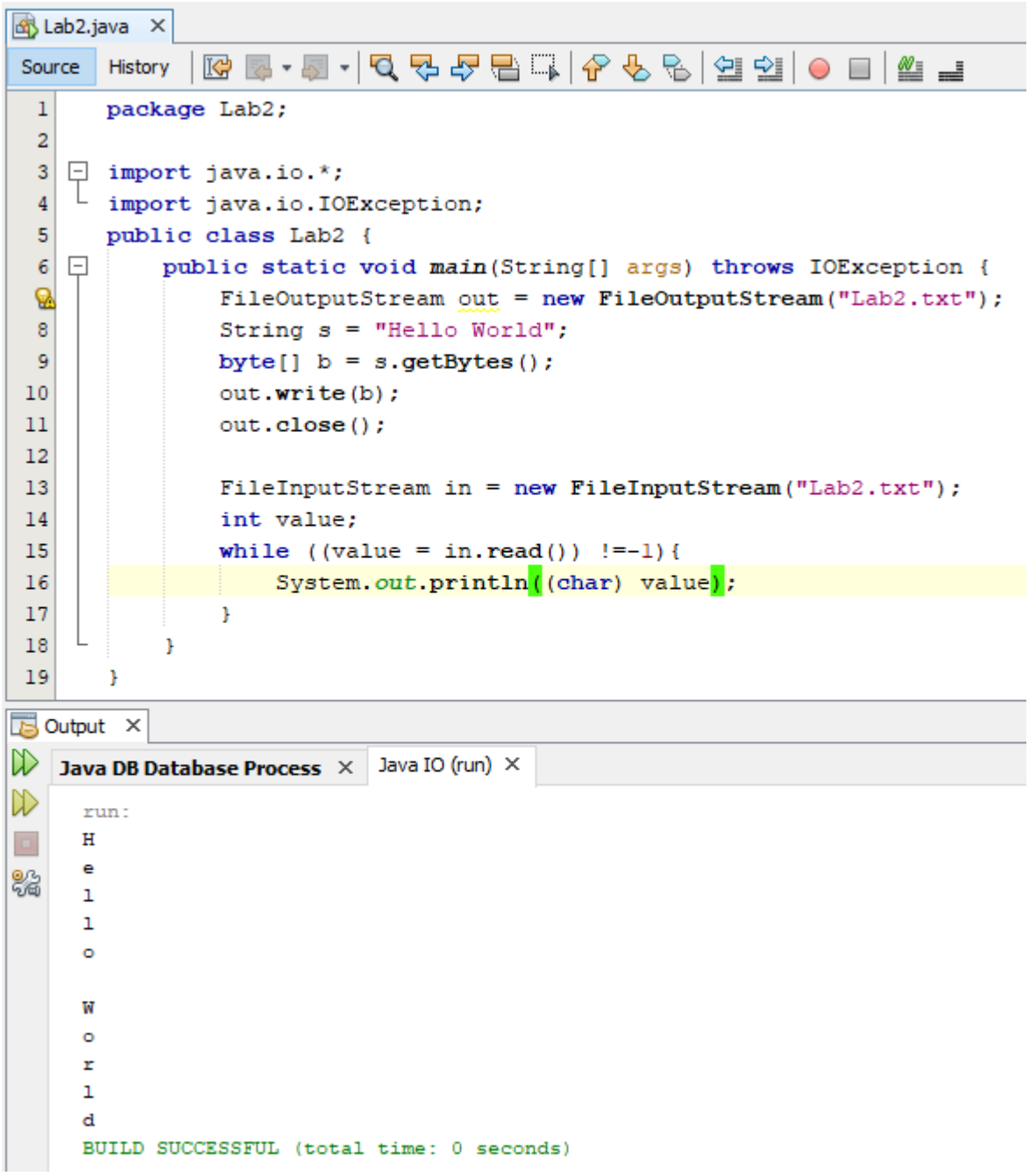
```java
package Lab1;

public class DecoratorTest {
    public static void main(String[] args) {
        Circle obj = new Circle();
        Rectangle obj2 = new Rectangle();

        RedShape redShape = new RedShape(obj);
        RedShape redShape2 = new RedShape(new Rectangle());
        redShape.draw();
        redShape2.draw();
    }

}
```

Output

Java DB Database Process | Java IO (run)

```
run:
Shape: Circle
Border Color: Red
Shape: Rectangle
Border Color: Red
BUILD SUCCESSFUL (total time: 0 seconds)
```

Lab2


Lab2.java
Source
History
1 package Lab2;
2
3 import java.io.*;
4 import java.io.IOException;
5 public class Lab2 {
6 public static void main(String[] args) throws IOException {
FileOutputStream out = new FileOutputStream("Lab2.txt");
8 String s = "Hello World";
9 byte[] b = s.getBytes();
10 out.write(b);
11 out.close();
12
13 FileInputStream in = new FileInputStream("Lab2.txt");
14 int value;
15 while ((value = in.read()) !=-1){
16 System.out.println((char) value);
17 }
18 }
19 }
Output
Java DB Database Process
Java IO (run)
run:
H
e
l
l
o
W
o
r
l
d
BUILD SUCCESSFUL (total time: 0 seconds)

Lab3

Lab3.java

Source | History

```java
package Lab3;
import java.io.*;
public class Lab3 {
    public static void main(String[] args) throws FileNotFoundException,IOException {
        DataOutputStream output = new DataOutputStream(new FileOutputStream("C:\\Users\\TUA\\Desktop\\demo.txt"));
        output.writeInt(12352);
        output.writeDouble(25.5);
        output.writeChar('A');
        output.writeUTF("Jim");
        output.flush();
        output.close();

        DataInputStream input = new DataInputStream(new FileInputStream("C:\\Users\\TUA\\Desktop\\demo.txt"));
        System.out.println(input.readInt());
        System.out.println(input.readDouble());
        System.out.println(input.readChar());
        System.out.println(input.readUTF());
        input.close();
    }
```

Output

Java DB Database Process | Java IO (run)

```
run:
12352
25.5
A
Jim
BUILD SUCCESSFUL (total time: 0 seconds)
```

Object Stream

Student.java

```
1  package Object_Stream;
2
3  import java.io.Serializable;
4
5      public class Student implements Serializable {
6          int id;
7          String name;
8
9          public Student(int id, String name) {
10             this.id = id;
11             this.name = name;
12         }
13 }
14
```

Deserialization.java | Serialization.java

```
4  import java.io.IOException;
5  import java.io.ObjectOutputStream;
6
7
8  public class Serialization {
9      public static void main(String[] args) throws IOException {
10         Student s = new Student(1111,"Tae");
           ObjectOutputStream output = new ObjectOutputStream(new FileOutputStream("object.dat"));
12 //         FileOutputStream fs = new FileOutputStream("object.dat");
13 //         ObjectOutputStream output = new ObjectOutputStream(fs);
14
15         output.writeObject(s);
16         output.flush();
17         output.close();
18         System.out.println("Success");
19     }
20 }
21
```

Output — Java DB Database Process | Java IO (run)

```
run:
Success
BUILD SUCCESSFUL (total time: 0 seconds)
```

Deserialization.java | Serialization.java

```
1  package Object_Stream;
2
3  import java.io.FileInputStream;
4  import java.io.IOException;
5  import java.io.ObjectInputStream;
6
7
8  public class Deserialization {
       public static void main(String[] args) throws ClassNotFoundException, IOException {
           ObjectInputStream input = new ObjectInputStream(new FileInputStream("object.dat"));
11         Student s = (Student)input.readObject();
12         System.out.println(s.id + " " + s.name);
13         input.close();
14     }
15 }
16
```

Output — Java DB Database Process | Java IO (run)

```
run:
1111 Tae
BUILD SUCCESSFUL (total time: 0 seconds)
```

Filestream

Filestream.java | TestDataInPutStream.java | TestDataOutPutStream.java

Source | History

```
1  package Stream;
2  import java.io.*;
3
4  public class Filestream {
5      public static void main(String[] args) throws FileNotFoundException ,IOException{
6          FileOutputStream output = new FileOutputStream("temp.dat");
7          String s = "Welcome bruh";
8          byte[] b = s.getBytes();
9          output.write(b);
10         output.flush();
11         output.close();
12
13         FileInputStream input = new FileInputStream("temp.dat");
14             int value;
15         while ((value = input.read()) != -1)
16             System.out.println((char) value);
17         input.close();
18     }
19 }
```

Output

Java DB Database Process | Java IO (run)

```
run:
W
e
l
c
o
m
e

b
r
u
h
BUILD SUCCESSFUL (total time: 0 seconds)
```

DataOutputStream

TestDataInPutStream.java | TestDataOutPutStream.java

Source | History

```
1  package Stream;
2  import java.io.*;
3  public class TestDataOutPutStream {
4      public static void main(String[] args) throws FileNotFoundException,IOException {
5          DataOutputStream output = new DataOutputStream(new FileOutputStream("temp.dat"));
6          output.writeByte(52);
7          output.writeBoolean(true);
8          output.writeChar('A');
9          //output.writeChars("Chars");
10         output.writeFloat(2.5F);
11         output.writeDouble(25.5);
12         output.writeInt(123);
13         output.writeUTF("John");
14         output.flush();
15         output.close();
16
17     }
18 }
19
```

Output

Java DB Database Process | Java IO (run)

```
run:
BUILD SUCCESSFUL (total time: 0 seconds)
```

DataInputStream

TestDataInPutStream.java

Source | History

```
1  package Stream;
2  import java.io.*;
3  public class TestDataInPutStream {
4      public static void main(String[] args) throws FileNotFoundException,IOException {
5          DataInputStream input = new DataInputStream(new FileInputStream("temp.dat"));
6          System.out.println(input.readByte());
7          System.out.println(input.readBoolean());
8          System.out.println(input.readChar());
9          System.out.println(input.readFloat());
10         System.out.println(input.readDouble());
11         System.out.println(input.readInt());
12         System.out.println(input.readUTF());
13         input.close();
14     }
15
16 }
```

Output

Java DB Database Process | Java IO (run)

```
run:
52
true
A
2.5
25.5
123
John
BUILD SUCCESSFUL (total time: 0 seconds)
```