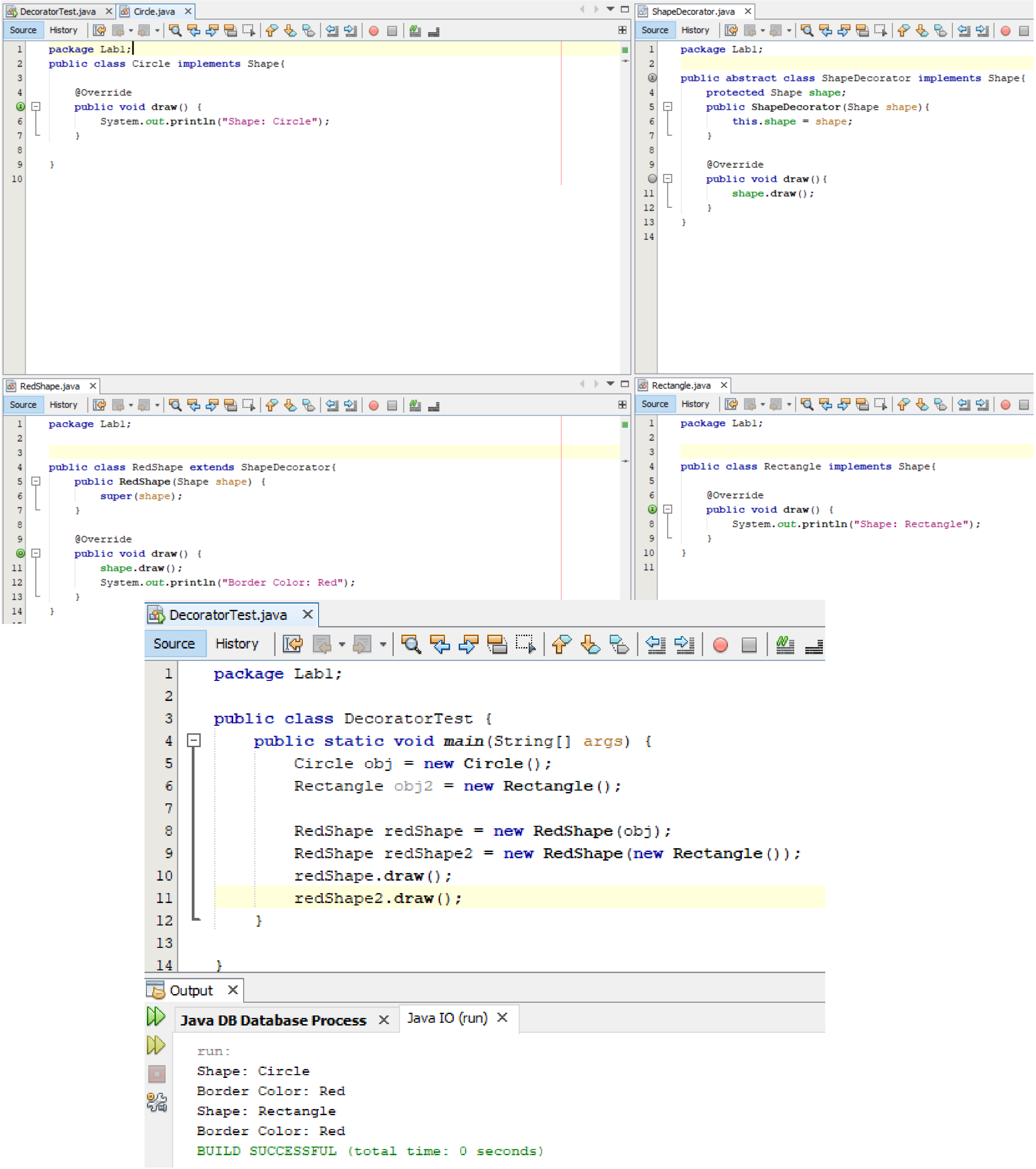
I/o Lab1



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

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

}
```

```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();
    }
}
```

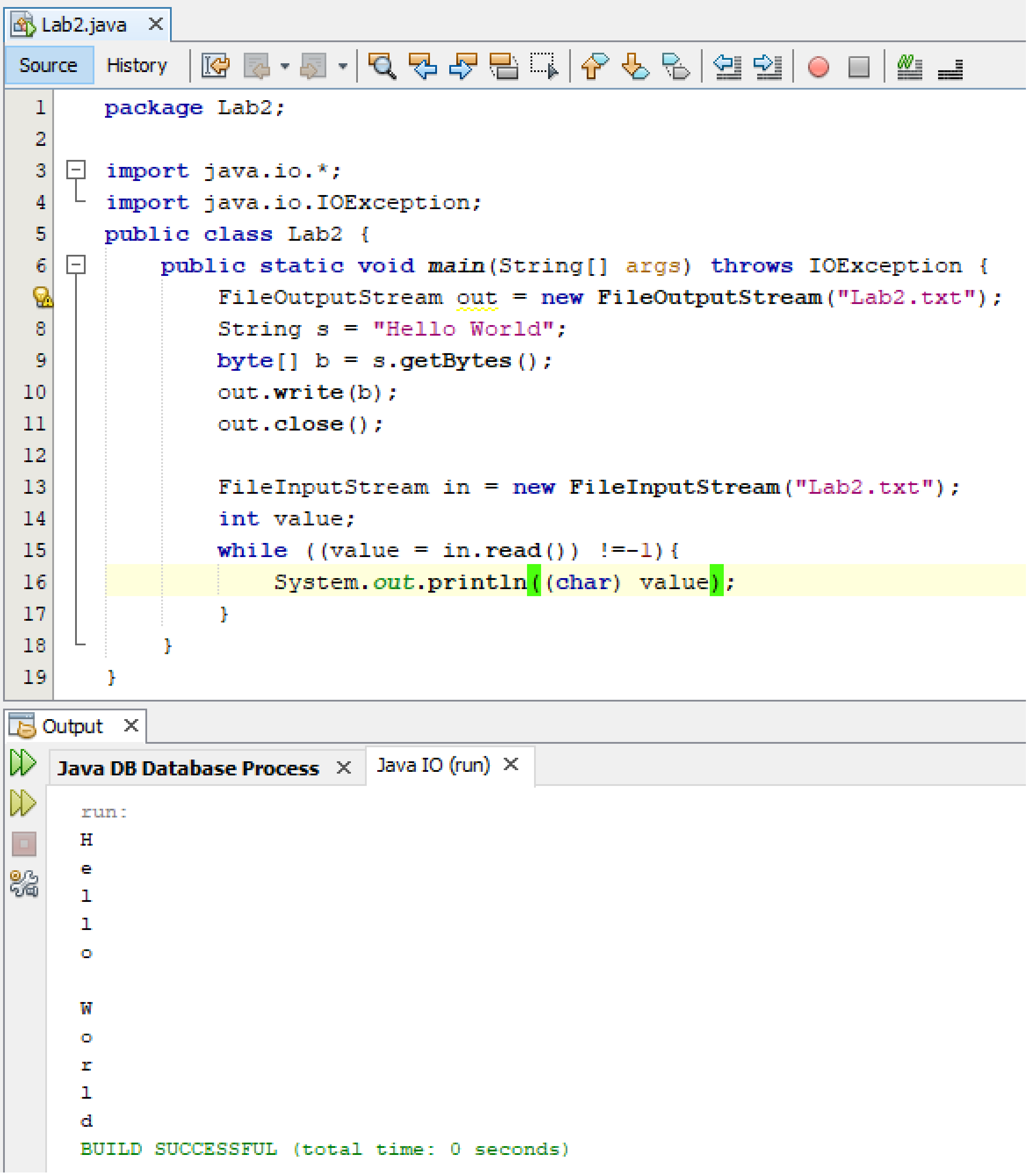
```java
package Lab1;


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

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

```java
package Lab1;


public class Rectangle implements Shape{

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

```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();
    }

}
```

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

Lab2



```java
package Lab2;

import java.io.*;
import java.io.IOException;
public class Lab2 {
    public static void main(String[] args) throws IOException {
        FileOutputStream out = new FileOutputStream("Lab2.txt");
        String s = "Hello World";
        byte[] b = s.getBytes();
        out.write(b);
        out.close();

        FileInputStream in = new FileInputStream("Lab2.txt");
        int value;
        while ((value = in.read()) !=-1){
            System.out.println((char) value);
        }
    }
}
```

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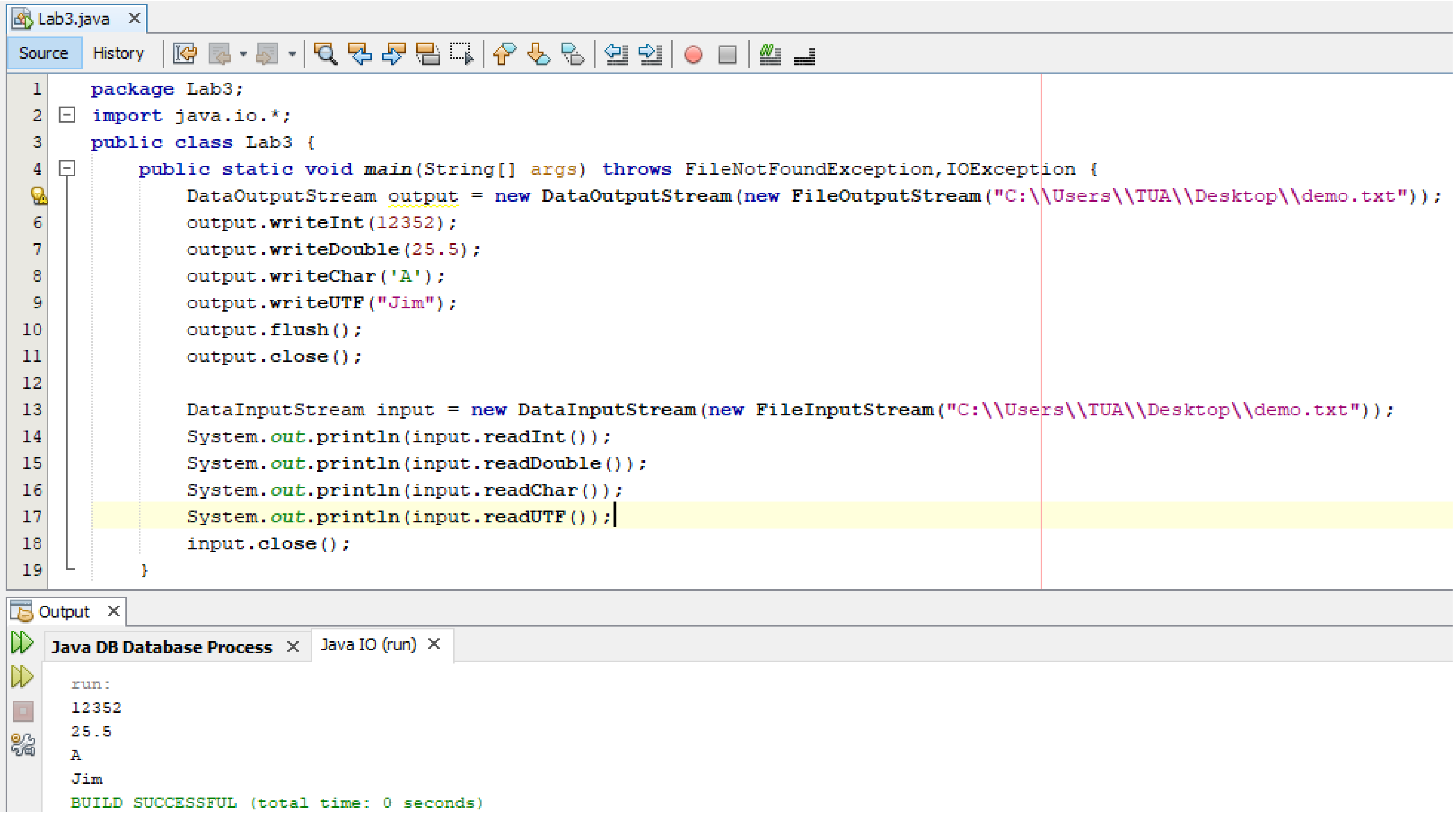
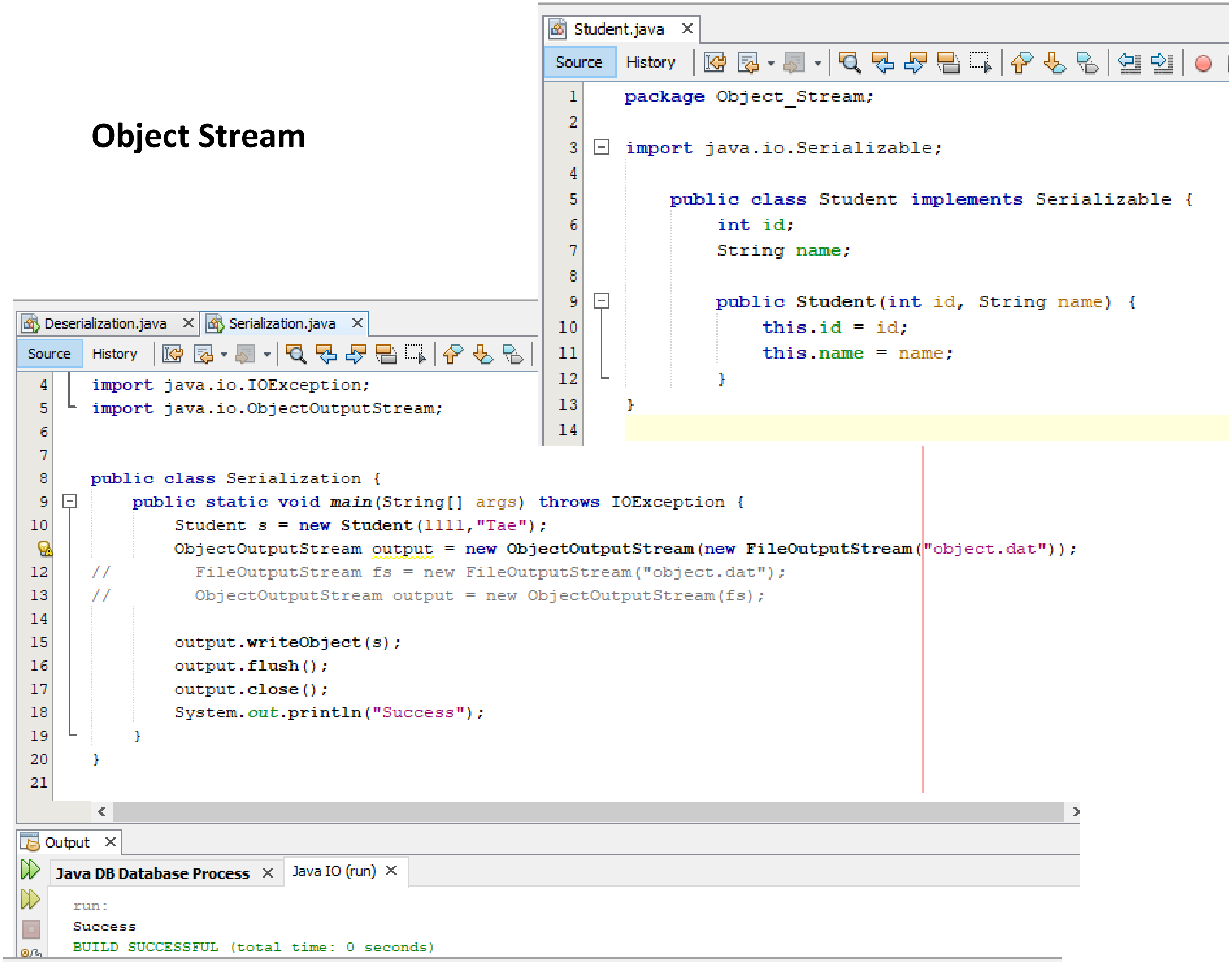

Lab3



```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();
    }
```

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

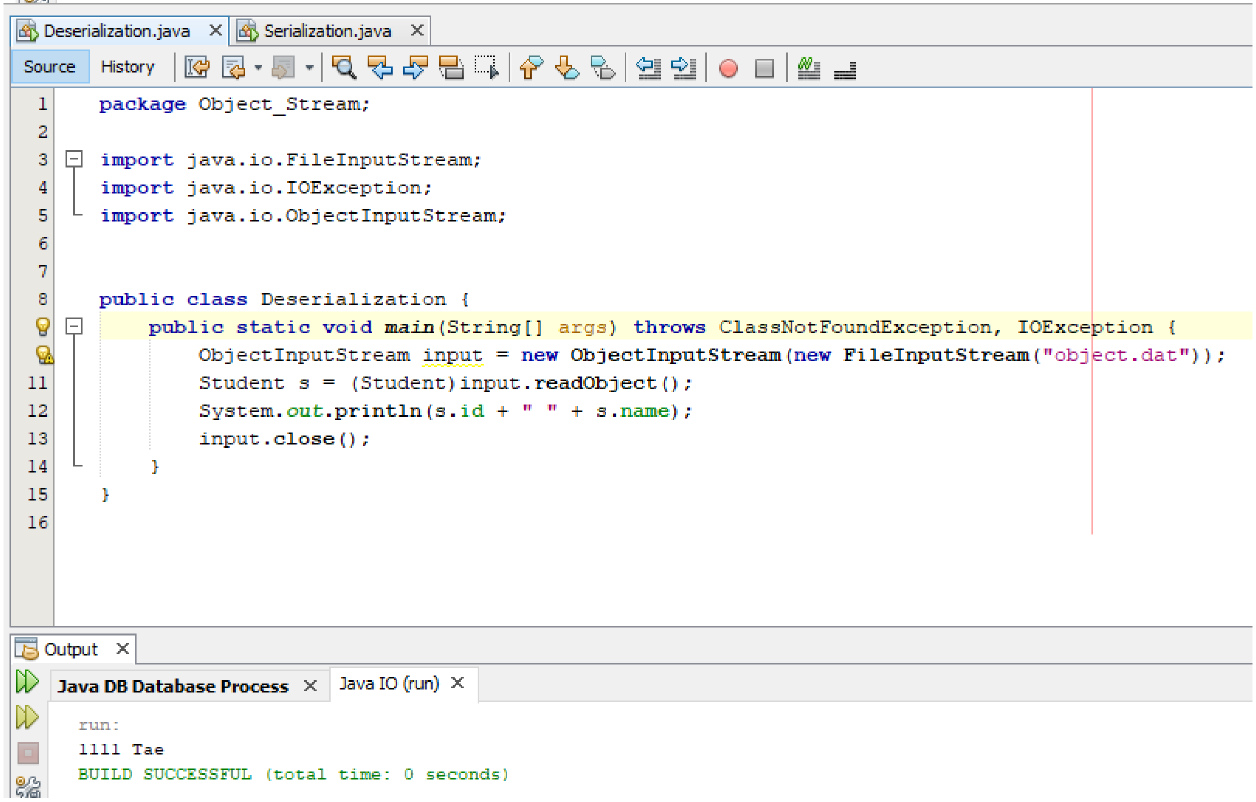
Object Stream



```java
package Object_Stream;

import java.io.Serializable;

    public class Student implements Serializable {
        int id;
        String name;

        public Student(int id, String name) {
            this.id = id;
            this.name = name;
        }
}

```

```java
import java.io.IOException;
import java.io.ObjectOutputStream;


public class Serialization {
    public static void main(String[] args) throws IOException {
        Student s = new Student(1111,"Tae");
        ObjectOutputStream output = new ObjectOutputStream(new FileOutputStream("object.dat"));
//          FileOutputStream fs = new FileOutputStream("object.dat");
//          ObjectOutputStream output = new ObjectOutputStream(fs);

        output.writeObject(s);
        output.flush();
        output.close();
        System.out.println("Success");
    }
}

```

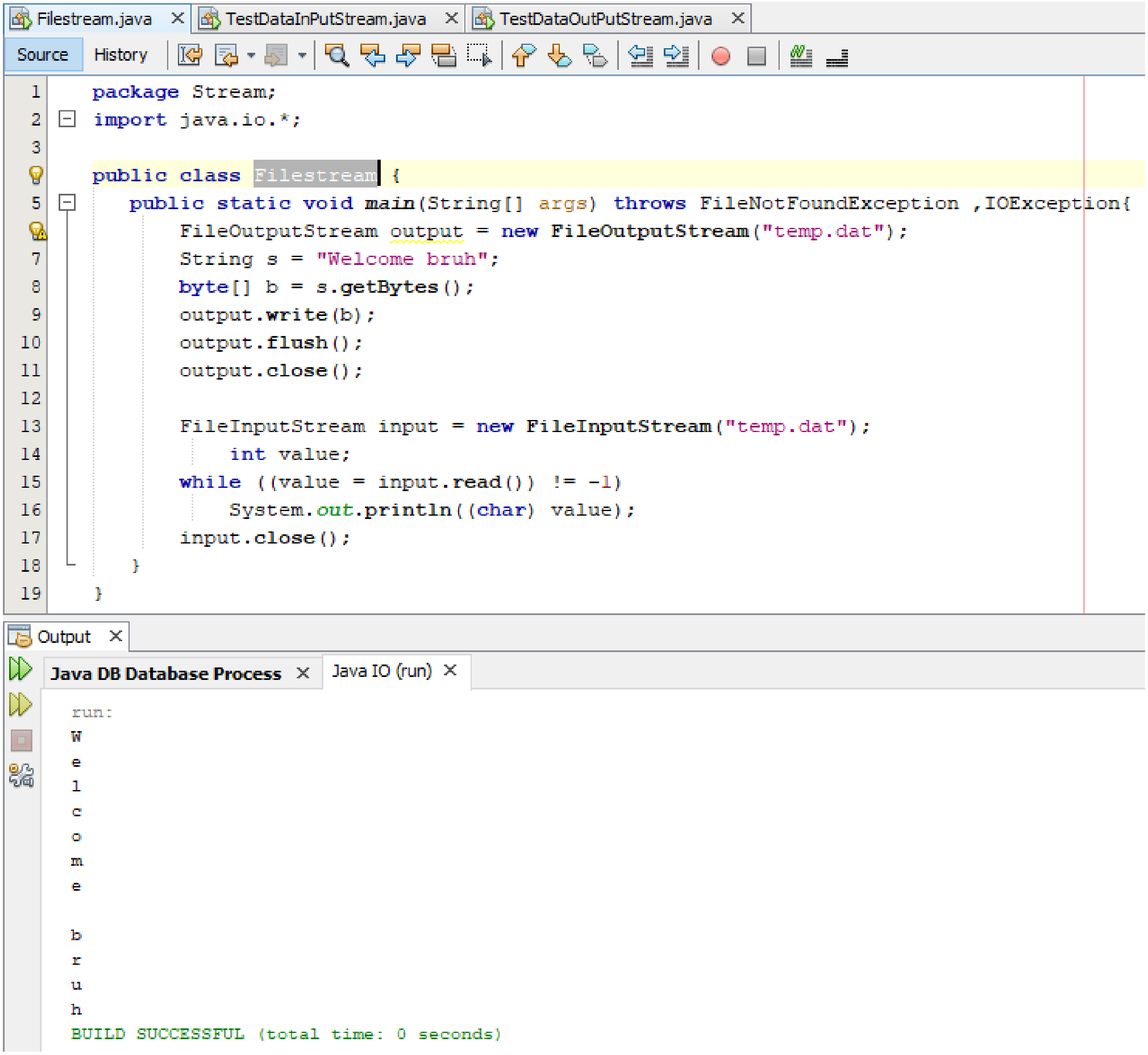
```
run:
Success
BUILD SUCCESSFUL (total time: 0 seconds)
```



```java
package Object_Stream;

import java.io.FileInputStream;
import java.io.IOException;
import java.io.ObjectInputStream;


public class Deserialization {
    public static void main(String[] args) throws ClassNotFoundException, IOException {
        ObjectInputStream input = new ObjectInputStream(new FileInputStream("object.dat"));
        Student s = (Student)input.readObject();
        System.out.println(s.id + " " + s.name);
        input.close();
    }
}

```

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

Filestream



```java
package Stream;
import java.io.*;

public class Filestream {
    public static void main(String[] args) throws FileNotFoundException ,IOException{
        FileOutputStream output = new FileOutputStream("temp.dat");
        String s = "Welcome bruh";
        byte[] b = s.getBytes();
        output.write(b);
        output.flush();
        output.close();

        FileInputStream input = new FileInputStream("temp.dat");
            int value;
        while ((value = input.read()) != -1)
            System.out.println((char) value);
        input.close();
    }
}
```

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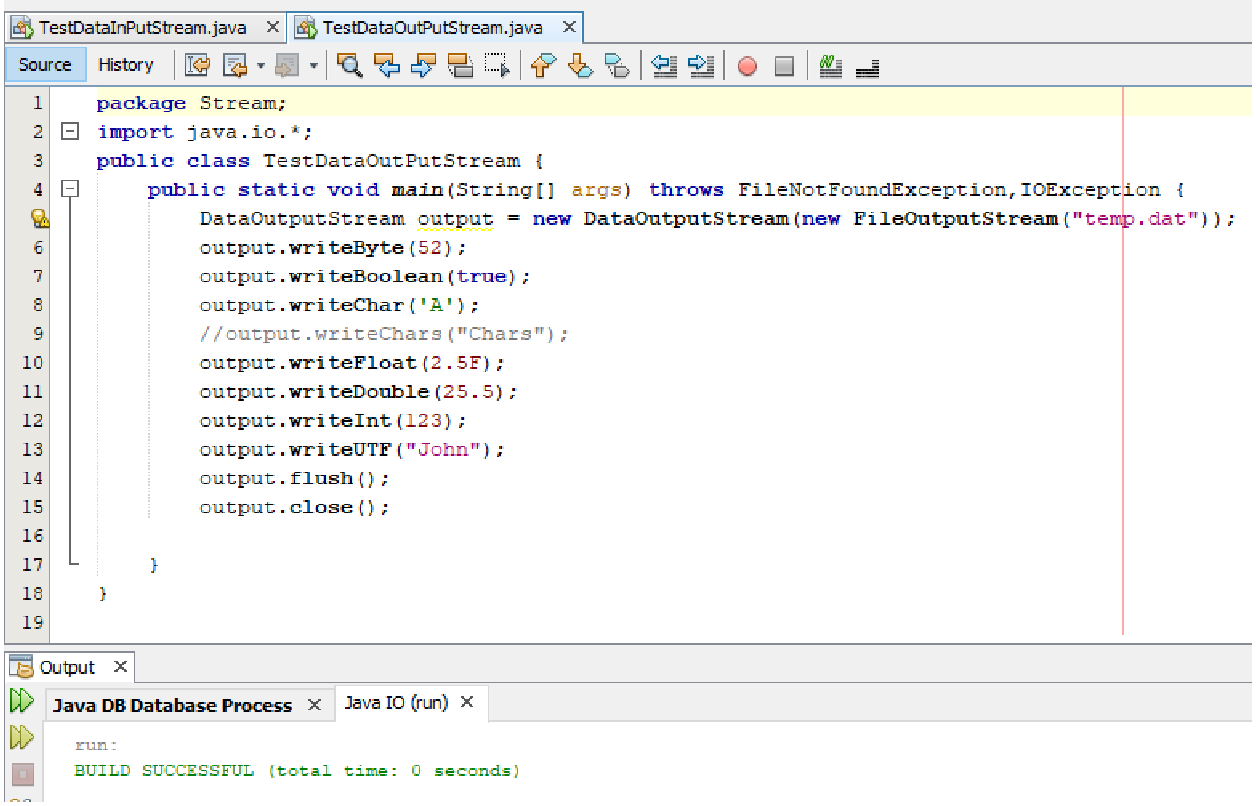
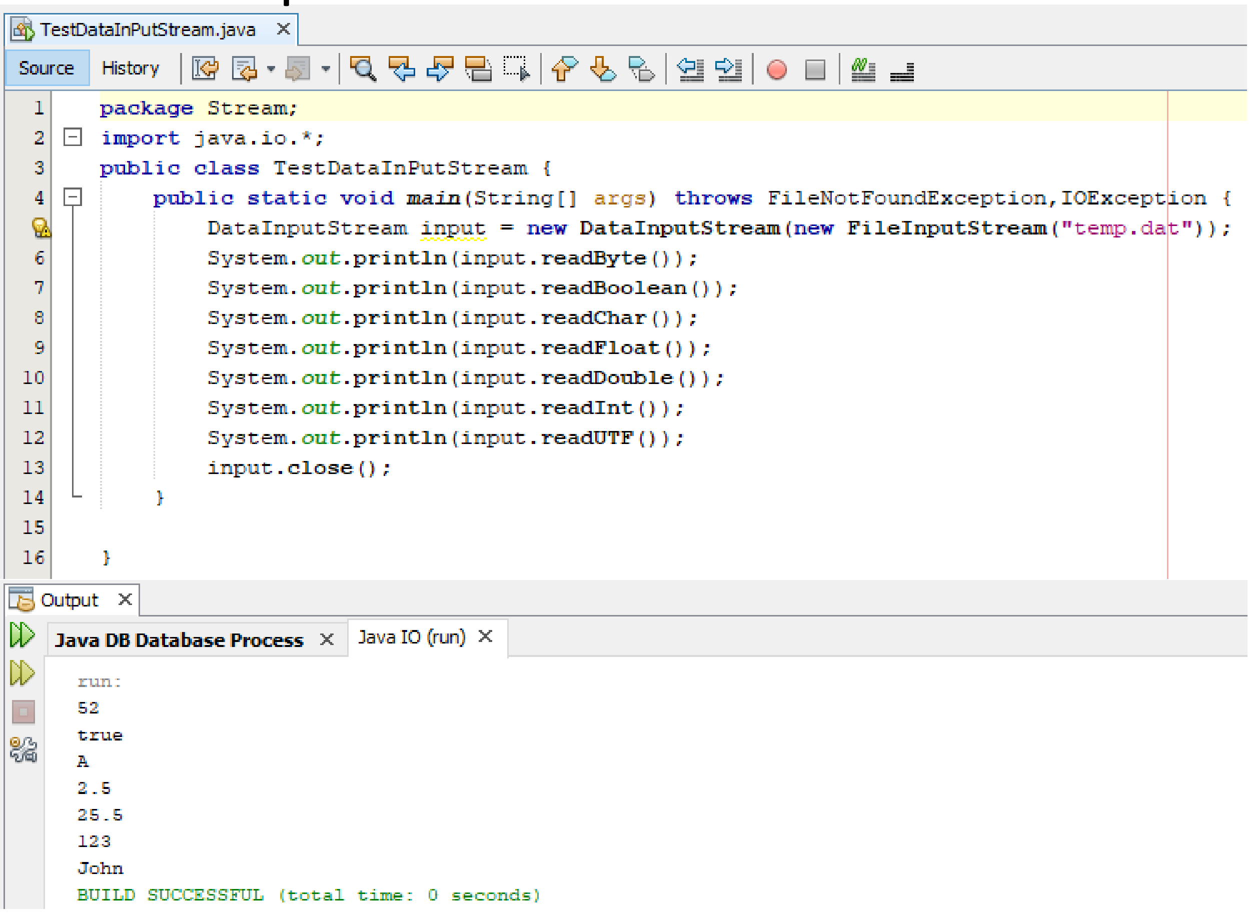

DataOutputStream



```java
package Stream;
import java.io.*;
public class TestDataOutPutStream {
    public static void main(String[] args) throws FileNotFoundException,IOException {
        DataOutputStream output = new DataOutputStream(new FileOutputStream("temp.dat"));
        output.writeByte(52);
        output.writeBoolean(true);
        output.writeChar('A');
        //output.writeChars("Chars");
        output.writeFloat(2.5F);
        output.writeDouble(25.5);
        output.writeInt(123);
        output.writeUTF("John");
        output.flush();
        output.close();

    }
}

```

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

DataInputStream



```java
package Stream;
import java.io.*;
public class TestDataInPutStream {
    public static void main(String[] args) throws FileNotFoundException,IOException {
        DataInputStream input = new DataInputStream(new FileInputStream("temp.dat"));
        System.out.println(input.readByte());
        System.out.println(input.readBoolean());
        System.out.println(input.readChar());
        System.out.println(input.readFloat());
        System.out.println(input.readDouble());
        System.out.println(input.readInt());
        System.out.println(input.readUTF());
        input.close();
    }

}
```

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