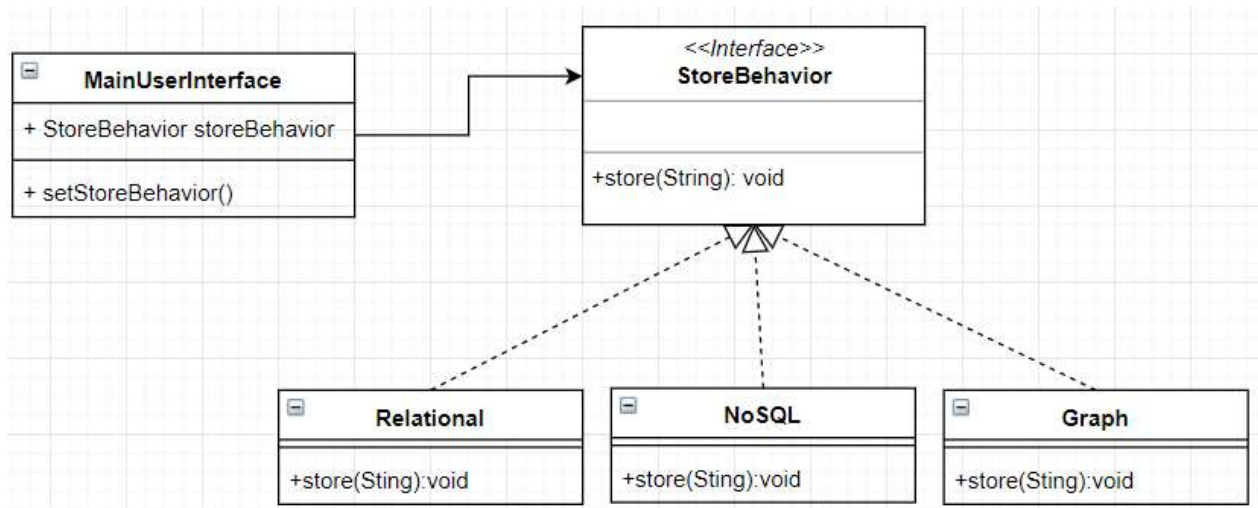


A)



```
package ESOF_HW2;
```

```
import java.io.FileNotFoundException;
```

```
import java.io.UnsupportedEncodingException;
```

```
import java.util.Scanner;
```

```
public class MainUserInterFace {
```

```
    StoreBehavior storeBehavior;
```

```
    public void setStoreStrategy(StoreBehavior sb){
```

```
        storeBehavior = sb;
```

```
}
```

```
    public static void main(String[] args) throws FileNotFoundException, UnsupportedEncodingException {
```

```
        MainUserInterFace instanceData = new MainUserInterFace();
```

```
String data = "Here we stored the data using ";
```

```
Scanner scan = new Scanner(System.in); // Create a Scanner object
```

```
System.out.println("1 : Relational (table store) - default");
```

```
System.out.println("2 : NoSQL (document store)");
```

```
System.out.println("3 : Graph (node store)");
```

```
System.out.println("Which data storage would you like to use:");
```

```
while(!scan.hasNextInt()) {
```

```
    System.out.println("Please enter an INT");
```

```
    scan.next();
```

```
}
```

```
int dataTypeIn = scan.nextInt();
```

```
instanceData.setStoreStrategy(new Relational());
```

```
Relational defaultR = new Relational();
```

```
defaultR.store(data);
```

```
switch(dataTypeIn){
```

```
    case 1:
```

```
        instanceData.setStoreStrategy(new Relational());
```

```
        break;
```

```
    case 2:
```

```
        instanceData.setStoreStrategy(new NoSQL());
```

```
        break;
```

```
    case 3:
```

```
        instanceData.setStoreStrategy(new Graph());
```

```
        break;
```

```
    default:
```

```
        instanceData.setStoreStrategy(new Relational());
    }
    instanceData.storeBehavior.store(data);
}
}
```

```
package ESOF_HW2;
```

```
import java.io.FileNotFoundException;
import java.io.UnsupportedEncodingException;
public interface StoreBehavior {
    void store(String data) throws FileNotFoundException, UnsupportedEncodingException;
}
```

```
package ESOF_HW2;
import java.io.FileNotFoundException;
import java.io.PrintWriter;
import java.io.UnsupportedEncodingException;
public class Graph implements StoreBehavior {
    public void store(String data) throws FileNotFoundException, UnsupportedEncodingException {
        PrintWriter writer = new PrintWriter("output.txt");
        writer.println(data + "node store in the Graph class.");
        writer.close();
        System.out.println(data+"node store in the Graph class.");
    }
}
package ESOF_HW2;
```

```
import java.io.FileNotFoundException;

import java.io.PrintWriter;

import java.io.UnsupportedEncodingException;


public class Relational implements StoreBehavior{

    public void store(String data) throws FileNotFoundException, UnsupportedEncodingException {

        PrintWriter writer = new PrintWriter("output.txt");

        writer.println(data + "table store in the class Relational.");

        writer.close();

        System.out.println(data+"table store in the class Relational.");

    }

}
```

```
package ESOF_HW2;

import java.io.FileNotFoundException;

import java.io.PrintWriter;

import java.io.UnsupportedEncodingException;

public class NoSQL implements StoreBehavior{

    public void store(String data) throws FileNotFoundException, UnsupportedEncodingException {

        PrintWriter writer = new PrintWriter("output.txt");

        writer.println(data + "document store in the class NoSQL.");

        writer.close();

        System.out.println(data + "document store in the class NoSQL.");

    }

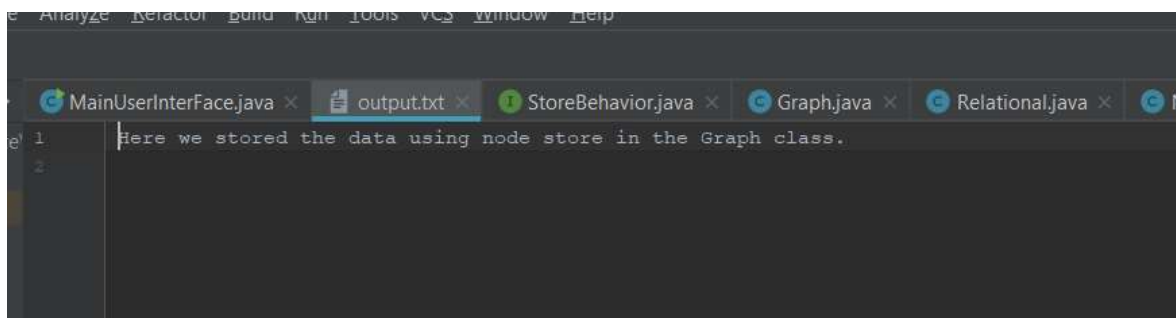
}
```

Terminal Output:

```
"C:\Program Files\Java\jdk1.8.0_171\bin\java.exe" ...
1 : Relational (table store) - default
2 : NoSQL (document store)
3 : Graph (node store)
Which data storage would you like to use:
3
Here we stored the data using table store in the class Relational.
Here we stored the data using node store in the Graph class.

Process finished with exit code 0
```

File Output



The screenshot shows an IDE window with several tabs: MainUserInterface.java, output.txt, StoreBehavior.java, Graph.java, Relational.java, and NoSQL.java. The output.txt tab is active, displaying the text: "Here we stored the data using node store in the Graph class."

UML Sequence:

