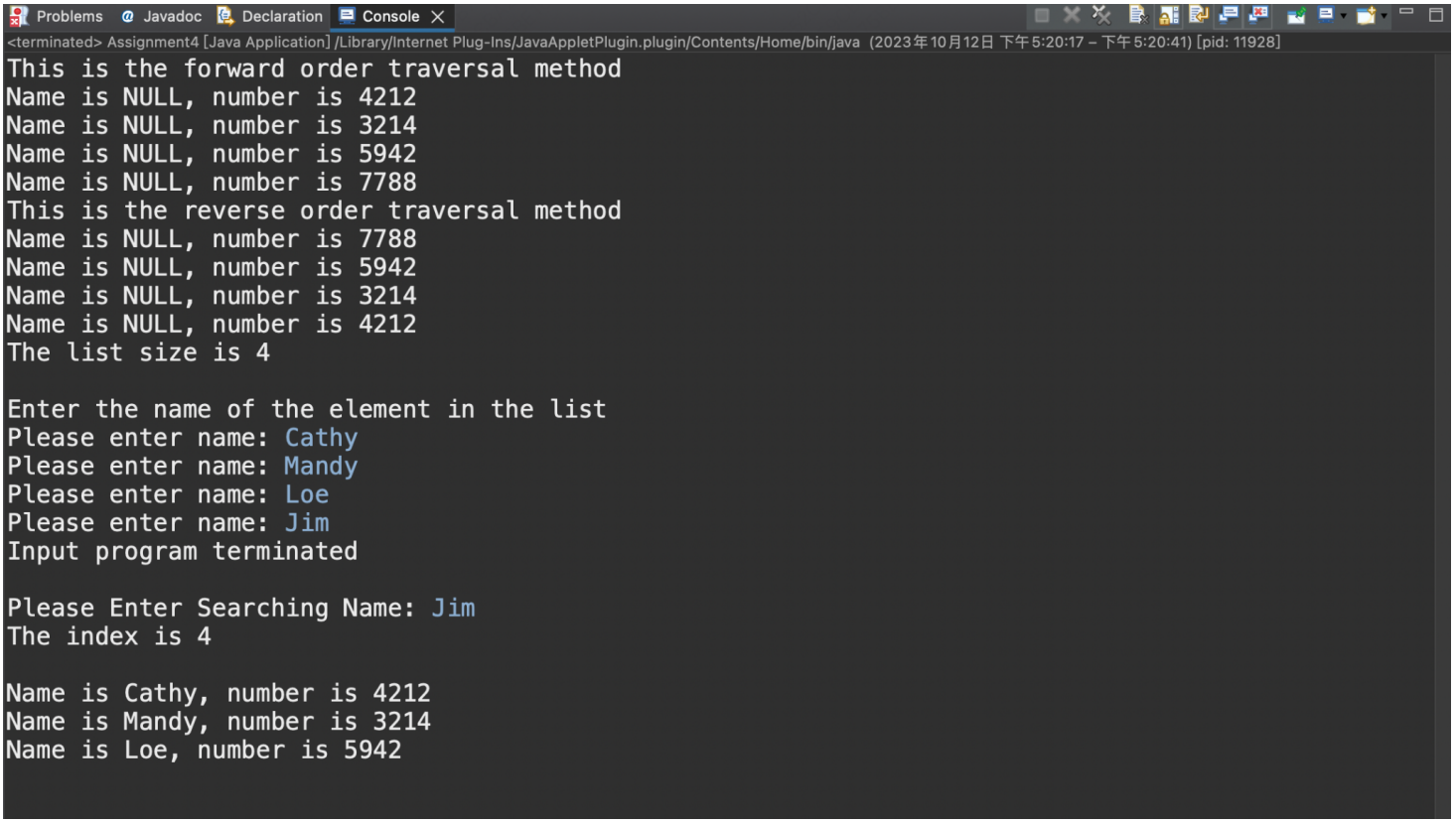
Assignment-4-Zhuang

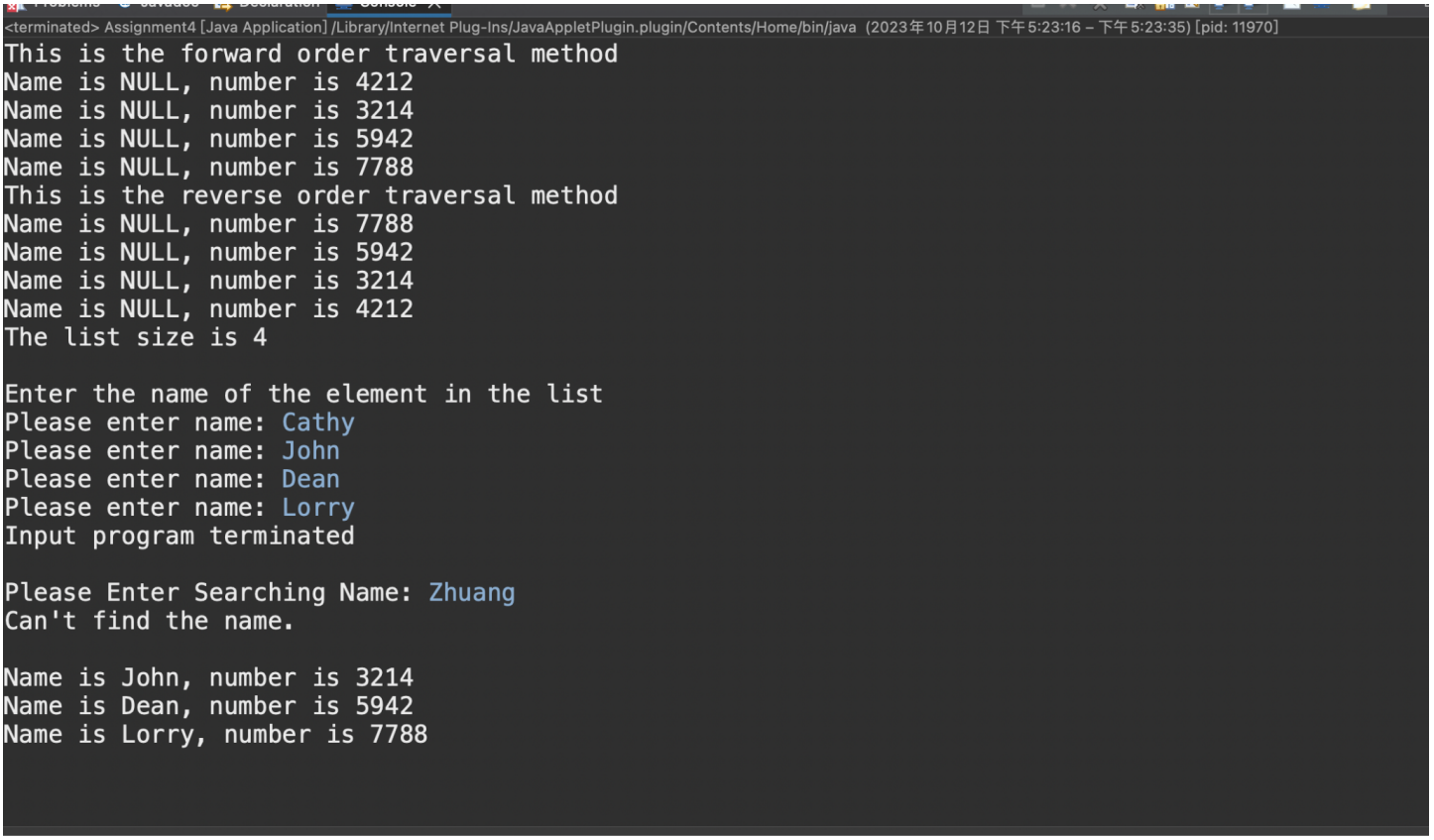
```java
import java.util.List;
import java.util.Scanner;
import java.util.ArrayList;
import java.util.ListIterator;

class Contact{

    private String name;
    private long number;

    // Default constructor
    public Contact() {
        this("null",0);
    }

    // Parameterized constructor
    public Contact(String name, long number) {
        this.name = name;
        this.number = number;
    }

    // Getter for name
    public String getName() {
        return name;
    }

    // Getter for number
    public long getNumber() {
        return number;
    }

    // Setter for name
    public void setName(String name) {
        this.name = name;
    }

    // Setter for number
    public void setNumber(long number) {
        this.number = number;
    }

    // Override toString method
    public String toString() {
        return "Name is " + name + ", number is " + number;
    }
}

public class Assignment4 {
    public static void main(String[] arg) {

        List<Contact> mylist = new ArrayList<>();
```

```
// Initializing the ArrayList with 4 Contact objects
mylist.add(new Contact("NULL",4212));
mylist.add(new Contact("NULL",3214));
mylist.add(new Contact("NULL",5982));
mylist.add(new Contact("NULL",7788));

// Traversing the list in forward order
ListIterator<Contact> itr = mylist.listIterator();
System.out.println("This is the forward order traversal method");
while(itr.hasNext()) {
    System.out.println(itr.next());
}

// Traversing the list in reverse order
System.out.println("This is the reverse order traversal method");
while(itr.hasPrevious()) {
    System.out.println(itr.previous());
}

// Displaying the size of the list
System.out.println("The list size is " + mylist.size());

// Requesting the user to input contact names
Scanner scanner = new Scanner(System.in);
int i = 0;
System.out.println();
System.out.println("Enter the name of the element in the list");
do {
    System.out.print("Please enter name: ");
    String input = scanner.nextLine();
    mylist.get(i).setName(input);
    i++;
} while(i < mylist.size());

System.out.println("Input program terminated");
System.out.println();

// Searching the list for the contact name provided by the user
System.out.print("Please Enter Searching Name: ");
String inputName = scanner.next();
int index = 0; // Variable to track the index
for(Contact s : mylist) {
    if(s.getName().equals(inputName)) {
        index = mylist.indexOf(s);
        System.out.println("The index is " + (index + 1));
    }
}

// Removing the contact
mylist.remove(index);

// Displaying the list contents using an enhanced for loop
System.out.println();
```

```
        for(Contact p : mylist) {
            System.out.println(p.toString());
        }
    }
}
```

Consequense




<terminated> Assignment4 [Java Application] /Library/Internet Plug-Ins/JavaAppletPlugin.plugin/Contents/Home/bin/java (2023年10月12日 下午5:23:16 – 下午5:23:35) [pid: 11970]
This is the forward order traversal method
Name is NULL, number is 4212
Name is NULL, number is 3214
Name is NULL, number is 5942
Name is NULL, number is 7788
This is the reverse order traversal method
Name is NULL, number is 7788
Name is NULL, number is 5942
Name is NULL, number is 3214
Name is NULL, number is 4212
The list size is 4
Enter the name of the element in the list
Please enter name: Cathy
Please enter name: John
Please enter name: Dean
Please enter name: Lorry
Input program terminated
Please Enter Searching Name: Zhuang
Can't find the name.
Name is John, number is 3214
Name is Dean, number is 5942
Name is Lorry, number is 7788