

```
package at1;
public abstract class List {
    int numOfElements;
    int totalOfElements;
    Object[] elements;

    public List(int totalOfElements){
        this.numOfElements = -1;
        this.totalOfElements = totalOfElements;
        this.elements = new Object[this.totalOfElements];
    }

    void printList(){
        int i;
        for(i=0; i<this.totalOfElements;i++){
            System.out.print(this.elements[i] + " ");
        }
        System.out.println("");
    }

    void insertElement(Object element){
        this.numOfElements += 1;
        this.elements[this.numOfElements] = element;
    }
}
```

```
package at1;
import java.util.Arrays;

public class intList extends List{

    public intList(int totalOfElements) {
        super(totalOfElements);
    }

    void insertElement(int element){
        super.insertElement(element);
    }

    void sortList(){
        Arrays.sort(this.elements);
    }
}
```

```
package at1;
import java.util.Arrays;

public class stringList extends List{

    public stringList(int totalOfElements) {
        super(totalOfElements);
    }

    void insertElement(String element){
        super.insertElement(element);
    }

    void sortList(){
        Arrays.sort(this.elements);
    }

}
```

```

package at1;
import java.util.Scanner;
public class At1 {
    public static void main(String[] args) {
        System.out.println(".: Atividade 1 de Programação Modular .:");
        try (Scanner reader = new Scanner(System.in)) {
            System.out.println(" Insira o Total de Elementos da Lista de Inteiros: ");
            int totalOfElements = reader.nextInt();
            intList listOfIntegers = new intList(totalOfElements);

            int i;
            System.out.println("Insira os Elementos da Lista: ");
            for(i=0; i<listOfIntegers.totalOfElements; i++){
                int n = reader.nextInt();
                listOfIntegers.insertElement(n);
            }
            System.out.println("Elementos da Lista: ");
            listOfIntegers.printList();
            System.out.println("Ordenando Lista ... ");
            listOfIntegers.sortList();
            System.out.println("Elementos da Lista: ");
            listOfIntegers.printList();

            System.out.println(" Insira o Total de Elementos da Lista de Strings: ");
            totalOfElements = reader.nextInt();
            stringList listOfStrings = new stringList(totalOfElements);
            System.out.println("Insira os Elementos da Lista: ");
            for(i=0; i<listOfStrings.totalOfElements; i++){
                String m = reader.nextLine();
                listOfStrings.insertElement(m);
            }
            System.out.println("Elementos da Lista: ");
            listOfStrings.printList();
            System.out.println("Ordenando Lista ... ");
            listOfStrings.sortList();
            System.out.println("Elementos da Lista: ");
            listOfStrings.printList();
        }
    }
}

```