Code for longest increasing subsequence .

```
import java.util.ArrayList;
import java.util.Scanner;
class LIS{
public int lengthOfLIS(ArrayList<Integer> a) {
  if(a==null || a.size()==0){
     return 0;
  }
  int[] dp = new int[a.size()];
  int max = 1;
  for(int index=0; index<a.size();index++){
     dp[index]=1;
     for(int dpIndex=0; dpIndex<index; dpIndex++){
        if(a.get(dpIndex)<a.get(index)){
           dp[index]=Math.max(dp[index],dp[dpIndex]+1);
           max=Math.max(dp[index],max);
        }
     }
  }
  return max;
}
}
public class Test{
public static void main(String[] args) {
Scanner sc = new Scanner(System.in);
LIS l = new LIS();
ArrayList<Integer> a = new ArrayList<Integer>();
System.out.println("Please enter the  numbers you want to enter: ");
int n=sc.nextInt();
System.out.println("Enter the data: ");
for(int i=0; i<n ; i++) {
a.add(sc.nextInt());
}
System.out.println("The list of elements added are:  "+a);
  System.out.println(l.lengthOfLIS(a));
}}
```