Longest Increasing Subsequence

Introduction:

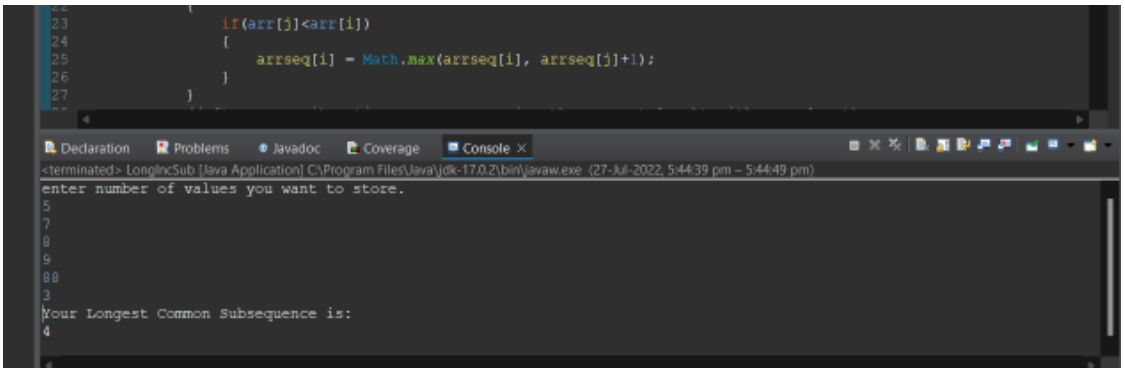
This Longest Increasing Subsequence program which will give the use LIS

Installation Guide:

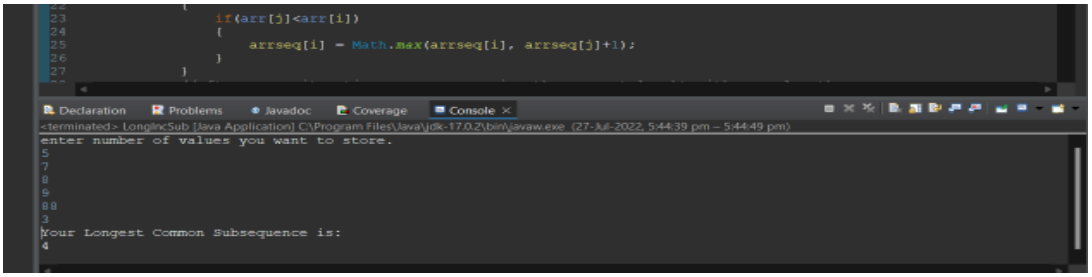
1. GitHub link: https://github.com/baljeet-singh97/LongestIncreasingSubsequence
2. Download the entire project as Zip in local system.
3. import the project in **Eclipse IDE**

How to use:

1. After running the code you will see the window like:



2. Enter the number of values you want to store, then store all the values and press enter you will get you Longest Increasing Subseq.



Code Description:

Main Function:

//making object of class Subseq
```
Subseq obj = new Subseq();
```

Classes:

- created class “Subseq” to perform the longest increasing subsequence

Created return type method to find LIS and return it to main.
```
int lis(int arr[], int n)
```

//created an array arrseq to store the lenght of all subseq
```
int arrseq[] = new int[arr.length];
```

//filling the arrseq with value 1
```
Arrays.fill(arrseq, 1);
```

//performed the operation checking from j to i
```
for(int i=1; i<arr.length; i++)
{
        for(int j=0; j<i; j++)
        {
                if(arr[j]<arr[i])
                {
                        arrseq[i] = Math.max(arrseq[i], arrseq[j]+1);
                }
        }
}
```

//after every iteration we are comparing the current lenght with prev length.

```
max = Math.max(max,arrseq[i]);
```

//returning the LIS
```
return max;
```