

Algorithm

1. Start
2. Create an array arr with integer values.
3. Print the given array to verify the elements.
4. Create another array liss with same size of arr, which will store the length of longest sub sequence at every index.
5. Fill array liss with values 1, as every element is a subsequence.
6. Iterate over arr.
7. For each element arr[i], iterate over all previous elements arr[j] .
8. If arr[i] is greater than arr[j] and the length of the LIS ending at arr[i] is less than or equal to the LIS ending at arr[j], update the length of the LIS ending at arr[i] to be one greater than the LIS ending at arr[j].
9. Store the maximum length of subsequence and its index in liss.
10. Create an ArrayList lss.
11. Starting from maxIndex, iterate backward through the array:
12. If the length of the LIS ending at the current index is equal to the current length (current), add the corresponding element to the lss list and decrement current.
13. Reverse the lss list to obtain the LIS in the correct order.
14. Output the LIS stored in the lss list.
15. Stop