Longest Incremental Sub Sequence

Source Code

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LIS Code:

**package** LongestSubsequence;

**import** java.util.\*;

**public** **class** LISubSequence {

**static** **int** Incre\_SubSequence(**int** Arr[], **int** Arr\_Length)

{

**int** Seq\_Arr[] = **new** **int**[Arr\_Length];

**int** i, j, max = 0;

/\* Initialize LIST values for all indexes \*/

**for** (i = 0; i < Arr\_Length; i++) {

Seq\_Arr[i] = 1;

}

/\* Compute optimized LIS values in bottom up manner \*/

**for** (i = 1; i < Arr\_Length; i++) {

**for** (j = 0; j < i; j++) {

**if** (Arr[i] > Arr[j] && Seq\_Arr[i] < Seq\_Arr[j] + 1) {

Seq\_Arr[i] = Seq\_Arr[j] + 1;

}

}

}

/\* Pick maximum of all LIS values \*/

**for** (i = 0; i < Arr\_Length; i++) {

**if** (max < Seq\_Arr[i]) {

max = Seq\_Arr[i];

}

}

**return** max;

}

**public** **static** **void** main(String args[])

{

Scanner s = **new** Scanner(System.***in***);

System.***out***.println("Enter the Size of the array");

**int** Arr\_length = s.nextInt();

**int** Arr[] = **new** **int**[Arr\_length];

**for** (**int** i = 0; i < Arr\_length; i++) {

**int** ele = s.nextInt();

Arr[i] = ele;

}

System.***out***.println("Printing Elements in the Array \n");

System.***out***.print("[");

**for** (**int** i = 0; i < Arr\_length; i++) {

System.***out***.print(Arr[i]);

**if** (i != (Arr\_length-1)) {

System.***out***.print(", ");

}

**else** {

System.***out***.print("]");

}

}

System.***out***.println("\n");

System.***out***.println("Length of Longest Increment Sub Sequence is " + *Incre\_SubSequence*(Arr, Arr\_length) + "\n");

}

}