

# Longest Increasing Subsequence: Source Code

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```
// longest increasing subsequence

public class longestIncSubseq {
    static int lis(int arr[], int n){

        int lis[] = new int[n];
        int i, j, max = 0;
        // initializing all indices to 1
        for (i = 0; i < n; i++)
            lis[i] = 1;
        // traversing the array to find the lis
        for (i = 1; i < n; i++)
            for (j = 0; j < i; j++)
                if (arr[i] > arr[j] && lis[i] < lis[j] + 1)
                    lis[i] = lis[j] + 1;
        // picking max value
        for (i = 0; i < n; i++)
            if (max < lis[i])
                max = lis[i];

        return max;
    }

    public static void main(String[] args)
    {
        int arr[] = { 7, 4, 10, 2, 3, 12, 6, 2, 9 };
        int n = arr.length;
        System.out.println("Length of the longest increasing subsequence
is: " + lis(arr, n) + "\n");
    }
}
```