The longestsub method takes an array of integers nums as input and returns a list of integers representing the longest increasing subsequence.

First, the code initializes two arrays, l1 and l2, both of size n, where n is the length of the input array. l1 stores the lengths of the increasing subsequences ending at each index, and l2 keeps track of the previous index that contributes to the longest subsequence ending at the current index.

The code then iterates over each element in the input array using two nested loops. The outer loop iterates from the first element to the last, while the inner loop iterates from the first element to the current element of the outer loop.

Within the inner loop, the code checks if the current element (nums[i]) is greater than the previous element (nums[j]) and if the length of the subsequence ending at index j plus one (l1[j] + 1) is greater than the length of the subsequence ending at index i (l1[i]). If both conditions are met, it updates l1[i] with the new length and sets l2[i] to j, indicating that nums[j] is the previous element in the longest subsequence ending at index i.

After completing the loops, the code searches for the maximum length in the l1 array and records its corresponding index in maxIndex. It also keeps track of the maximum length itself in the variable maxLength.

Next, the code creates a new ArrayList called l3 to store the longest increasing subsequence. Starting from maxIndex, it iterates through the l2 array, adding the corresponding elements from the input array (nums) to l3 in reverse order until it reaches an index with a value of -1. This reverse traversal ensures that the elements are added in the correct order.

Finally, the l3 list, representing the longest increasing subsequence, is returned.