peaks

You are given a sequence of numbers s, you are required to find 3 indices i, j, k, where i < j < k and (s[i] <= s[j] >= s[k] or s[i] >= s[j] <= s[k]) if there are many solutions you should find the one where |s[i]-s[j]| + |s[j]-s[k]| is maximized, if there are still many solutions you should find the one which comes earlier in order (i.e. i1, j1, k1, comes before i2, j2, k2, if i1 < i2, or if i1 = i2, and j1 < j2, or if i1 = i2, j1 = j2, and k1 < k2).

Input

The problem will be tested on multiple test cases, the first line of the input contains an integer n representing the size of the sequence (3 <= n <= 10^6) (^ means power), then followed by n integers. All numbers in this sequence do not exceed 10^6 in absolute value. The input is terminated by end of file.

Output

For each test case, output a line containing the 3 indices of the pattern i, j, k space separated. If there is no such pattern output -1 instead.

Sample

Input:
7
2 3 1 7 2 4 8
5
2 3 5 7 1

Output:
3 4 5
1 4 5