#include <bits/stdc++.h>

using namespace std;

void sortArray(vector<int>& arr, int n) {

int low = 0, mid = 0, high = n - 1; // 3 pointers

while (mid <= high) {

if (arr[mid] == 0) {

swap(arr[low], arr[mid]);

low++;

mid++;

}

else if (arr[mid] == 1) {

mid++;

}

else {

swap(arr[mid], arr[high]);

high--;

}

}

}

int main()

{

int n = 6;

vector<int> arr = {0, 2, 1, 2, 0, 1};

sortArray(arr, n);

cout << "After sorting:" << endl;

for (int i = 0; i < n; i++) {

cout << arr[i] << " ";

}

cout << endl;

return 0;

}