#include <stdio.h>

void merge(int [], int, int [], int, int []);

int main() {

int a[100], b[100], m, n, c, sorted[200];

printf("Input number of elements in first array\n");

scanf("%d", &m);

printf("Input %d integers\n", m);

for (c = 0; c < m; c++) {

scanf("%d", &a[c]);

}

printf("Input number of elements in second array\n");

scanf("%d", &n);

printf("Input %d integers\n", n);

for (c = 0; c < n; c++) {

scanf("%d", &b[c]);

}

merge(a, m, b, n, sorted);

printf("Sorted array:\n");

for (c = 0; c < m + n; c++) {

printf("%d\n", sorted[c]);

}

return 0;

}

void merge(int a[], int m, int b[], int n, int sorted[]) {

int i, j, k;

j = k = 0;

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

if (j < m && k < n) {

if (a[j] < b[k]) {

sorted[i] = a[j];

j++;

}

else {

sorted[i] = b[k];

k++;

}

i++;

}

else if (j == m) {

for (; i < m + n;) {

sorted[i] = b[k];

k++;

i++;

}

}

else {

for (; i < m + n;) {

sorted[i] = a[j];

j++;

i++;

}

}

}

}