Divide 1 to n into two groups with minimum sum difference

> 给定整数N，将1～N划分为两组，使得 abs(sum(Group1) - sum(Group2))最小

对于任意一个N，总是可以将其划分为两组，使得这两组的绝对值之差为0或者1，所以有sum1 + sum1 = sum or sum1 + sum1 + 1 = sum，所以有：

1. 首先求出所有元素的和sum
2. 令group1的所有元素和为sum1，且sum1 = sum
3. 从后往前遍历，如果sum1 - i ≥ 0，则将i加入group1，否则加入group2

```
#include <bits/stdc++.h>

using namespace std;

void twoGroup(int &N) {
    vector<int> a1, a2;
    int sum = N * (N + 1) / 2;
    int sum1 = sum / 2;
    for (int i = N; i >= 1; --i) {
        if (sum1 - i >= 0) {
            a1.push_back(i);
            sum1 -= i;
        } else
            a2.push_back(i);
    }
    for (int a: a1) printf("%d ", a);
    printf("\n");
    for (int a: a2) printf("%d ", a);
}

int main() {
    int T;
    scanf("%d", &T);
    while (T--) {
        int N;
        scanf("%d", &N);
        twoGroup(N);
    }
    return 0;

}
```