Problem I: Risk Armies

In the game of Risk, players can choose territories to place their armies. For a school project, you've created a simplified version of the game. The **n** territories are aligned in a single line, and each territory has a number of armies associated with it. You may claim any subset of **n** of the territories, of exactly size **k**, provided that no two of the territories are adjacent. Write a program to calculate the maximum possible sum of the number of armies in the over all possible sets of exactly **k** territories you could claim.

Problem

Given the number of armies in each of **n** consecutive territories, determine the maximum sum of number of armies in any **k** of the territories, where no two are right next to each other.

Input

The first line of input will contain a single integer, **c**, which represents the number of cases. The first line of each case will contain two positive integers, **n**, representing the number of territories, and **k**, the number of territories you can select, for the input case. The second line of each case will contain **n** space-separated integers ($a_1, a_2, \ldots a_n$) representing the number of armies in each territory, from left to right. You are guaranteed that there will be at least one way to select **k** territories, no two of which are adjacent.

Output

For each case, output the maximum sum of the number of armies in any **k** territories, where no two are adjacent.

Input Bounds and Corresponding Credit

- $1 \le c \le 20$
- $1 \le n \le 30$
- $1 \le k \le 6$, **2k-1 ≤ n**
- $1 \le a_i \le 10^6$

Samples

Input	Output
2 5 2 10 9 3 8 6 8 3 12 13 14 11 18 16 2 9	18 44