

A meandering river flows alongside that small knot of villages known as *The Endians* and its annual flooding has resulted in miles of fertile ground along both banks. The local farmers, keen to maximise their crops given limited resources, work hard to choose the best sections of the riverbanks.

Local ordinances divide each riverbank into n sections which, by common consent (or heated argument), have been assigned a fertility score. Each crop is planted on two adjacent sections; either sections i and $i+1$ on the same bank, or section i on both banks. At most one crop can be planted in any section.

For example, suppose there are 2 crops to plant and 3 sections on each riverbank, with scores 1 3 2 and 2 3 1. Planting one crop using the middle section of both banks and the second crop using the first section of each bank, has a total fertility score of 9 (3+3 for the first crop and 1+2 for the second). Alternatively, planting one crop on the last two sections of the first bank and the second on the first two sections of the second, has a total fertility score of 10 (3+2 for the first and 2+3 for the second).

SAMPLE INPUT

```
3
2
1 2
3 3
2 1
```

Write a program that finds the largest possible total fertility score for the planted crops. The first line of the input will be a single integer n ($1 \leq n \leq 2^{10}$) indicating the number of sections on each bank. The second line of the input will be a single integer c ($1 \leq c \leq n$) indicating the number of crops to be planted. The next n lines will consist of a pair of integers f_i then s_i ($0 \leq f_i, s_i \leq 2^{20}$), with line i indicating the fertility score for the i^{th} section of the first and second banks respectively.

You should output a single integer, the maximum total fertility score for the crops.

SAMPLE OUTPUT

```
10
```