Submatrix Sum

Assignment 3
Computer Programming

Problem Statement: Given an $N \times M$ matrix A, find the $n \times m$ submatrix in A whose sum of elements is the highest of all the possible $n \times m$ submatrix in A

Input
The first line has 4 integers N, M, n and m denoting the number of rows and columns respectively. The next N lines of input has M space separated integers denoting the entries in the matrix.
Output
Print a single integer, the maximum possible sum achievable

Constraints
$1 \leq N, M \leq 2000$
$1 \leq n \leq N$
$1 \leq m \leq M$
$1 \leq A_{i,j} \leq 10^9$

Sample Test Case

Input	Output
4 4 2 2 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	54