Max Absolute Sum

Given a matrix $A \in \mathbb{R}^{m \times n}$, find

$$\max_{j=1,2,\ldots,n} \sum_{i=1}^{m} |a_{ij}|$$

This means we want to find the column with the maximum sum of absolute values.

Example:

Consider the matrix:

$$A = \begin{pmatrix} 2 & -3 & 1 & 4 \\ -1 & 5 & -2 & 0 \\ 3 & -1 & 6 & -2 \end{pmatrix}$$

The answer is 9 (from the third column: $|1| + |-2| + |6| = 9$).

Input Format

- Matrix $A \in \mathbb{R}^{m \times n}$ as a 2d numpy array

Output Format

Output the maximum absolute column sum as a floating-point number.

Constraints

- $A \in \mathbb{R}^{m \times n}$ where $1 \leq m, n \leq 1000$
- All input values are real numbers in the range $[-100, 100]$

Sample Input

```
A = [[2, -3, 1, 4],
     [-1, 5, -2, 0],
     [3, -1, 6, -2]]
```

Sample Output

```
9.0
```

Implementation

Goal: Fill in the following function:

```
def max_abs_sum(A):
    ...
    return ... # Return the maximum absolute column sum
exec("\n".join(iter(input, "#Exit"))) # Don't remove this line
```