Matrix Multiplication with Transpose

Given two matrices A and B with dimensions $n \times m$, you are required to compute the product of matrix A with the transpose of matrix B (denoted as B^T). The resulting matrix will have dimensions $n \times n$.

You must implement the solution using functions and handle any errors during input or calculation.

Function Description

Complete the `'matrix_multiplication_with_transpose'` function in the editor below. The function should read two matrices A and B and output their product AB^T.

- `'matrix_multiplication_with_transpose(n: int, m: int, A: List[List[int]], B: List[List[int]]) -> List[List[int]]:'`
  - `'n'` (integer): The number of rows in matrices A and B.
  - `'m'` (integer): The number of columns in matrices A and B.
  - `'A'` (List[List[int]]): Matrix A with dimensions $n \times m$.
  - `'B'` (List[List[int]]): Matrix B with dimensions $n \times m$.
  - Returns: The resulting matrix AB^T with dimensions $n \times n$.

You should print "Invalid Matrix" if the entered matrix dimensions are inconsistent or do not comply with the expected format. Print "Error" for any other exceptions.

Input Format

- The first line contains two integers n and m, the dimensions of matrices A and B.
- The next n lines contain m integers each, representing the elements of matrix A.
- The next n lines contain m integers each, representing the elements of matrix B.

Constraints

- $1 \leq n, m \leq 100$
- The elements of the matrices are integers within the range $[-1000, 1000]$.

Output Format

- Print the resulting $n \times n$ matrix AB^T, with each row on a new line.
- If the input is invalid, print "Invalid Matrix".
- If any other error occurs, print "Error".

Sample Input

```
3 4

1 2 3 4
3 3 4 4
4 4 5 5

1 7 3 3
3 7 4 4
5 7 5 5
```

Sample Output

```
36 45 54
48 62 76
62 80 98
```

Explanation

The input consists of two matrices A and B both of size 3×4. The resulting matrix AB^T is calculated as the product of A and the transpose of B, resulting in a 3×3.