Array Mathematics

Basic mathematical functions operate element-wise on arrays. They are available both as operator overloads and as functions in the *NumPy* module.

```
import numpy

a = numpy.array([1,2,3,4], float)
b = numpy.array([5,6,7,8], float)

print a + b              #[  6.  8.  10.  12.]
print numpy.add(a, b)         #[  6.  8.  10.  12.]

print a - b              #[-4. -4. -4. -4.]
print numpy.subtract(a, b)    #[-4. -4. -4. -4.]

print a * b              #[  5.  12.  21.  32.]
print numpy.multiply(a, b)    #[  5.  12.  21.  32.]

print a / b              #[ 0.2     0.33333333 0.42857143 0.5     ]
print numpy.divide(a, b)      #[ 0.2     0.33333333 0.42857143 0.5     ]

print a % b              #[ 1.  2.  3.  4.]
print numpy.mod(a, b)         #[ 1.  2.  3.  4.]

print a**b               #[ 1.00000000e+00  6.40000000e+01  2.18700000e+03  6.55360000e+04]
print numpy.power(a, b)       #[ 1.00000000e+00  6.40000000e+01  2.18700000e+03  6.55360000e+04]
```

Task

You are given two arrays (A & B) of dimensions NxM.
Your task is to perform the following operations:

1. Add ($A + B$)

2. Subtract ($A - B$)

3. Multiply ($A * B$)

4. Divide (A / B)

5. Mod ($A \% B$)

6. Power ($A ** B$)

Input Format

The first line contains two space separated integers, N and M.
The next N lines contains M space separated integers of array A.
The following N lines contains M space separated integers of array B.

Output Format

Print the result of each operation in the given order under **Task**.

Sample Input

```
1 4
1 2 3 4
5 6 7 8
```

Sample Output

```
[[ 6  8 10 12]]
[[-4 -4 -4 -4]]
[[ 5 12 21 32]]
[[0 0 0 0]]
[[1 2 3 4]]
[[   1   64 2187 65536]]
```

Use `//` for division in Python 3.

```
[[ 6  8 10 12]]
[[-4 -4 -4 -4]]
[[ 5 12 21 32]]
[[0 0 0 0]]
[[1 2 3 4]]
[[   1   64 2187 65536]]
```

Use `//` for division in Python 3.