Title: SquaringArray

Problem Statement:

One day, while you were bored, you wondered about how squaring an integer array of size n would look like. You came up with this:

1. The array will now be of size n*n
2. The original integer array will be the first row in the n*n array.
3. For all subsequent rows, the contents are derived by reversing the previous row, and adding the numbers from the original array to the numbers in the previous row. The order of additions will also be reversed at every iteration.
4. Combine the rows to make an array of size n*n.

Input:

An integer n (1 <= n <= 1000), in a single line.

On the next line, there will be n integers of size [1, 2 * 10^6]. You do not need to worry about integer overflow.

Output:

Print the items in this new array on a single line, in order.

Example:

Input:

```
4
1 2 3 4
```

Output:

```
1 2 3 4 8 6 4 2 3 6 9 12 16 12 8 4
```

Explanation:

We can split the array into four sections:

```
[1, 2, 3, 4] [ _ _ _ _ ] [ _ _ _ _ ] [ _ _ _ _ ]
[1, 2, 3, 4] [4+4, 3+3, 2+2, 1+1] [ _ _ _ _ ] [ _ _ _ _ ]
[1, 2, 3, 4] [8, 6, 4, 2] [2+1, 4+2, 6+3, 8+4] [ _ _ _ _ ]
[1, 2, 3, 4] [8, 6, 4, 2] [3, 6, 9, 12] [12+4, 9+3, 6+2, 3+1]
[1, 2, 3, 4] [8, 6, 4, 2] [3, 6, 9, 12] [16, 12, 8, 4]
[1, 2, 3, 4, 8, 6, 4, 2, 3, 6, 9, 12, 16, 12, 8, 4]
```