1.

Create a file containing a vector `w` and its length in the first line. The file should look in the following way:

```
N
w1
w2
w3
...
wN
```

2.

Write a program which contains a static array `w` of length `MAX_N` and three two-dimensional static arrays `A`, `B` and `C` of sizes $[MAX_N x MAX_M]$, $[MAX_M x MAX_L]$ and $[MAX_N x MAX_L]$ correspondingly.

3.

Read the length N of the vector `w` and and check if `MAX_N`$\geq$`N`. If the condition is fulfilled, read the vector into the array.

4.

Check if `MAX_M`$\geq$`N` and if the condition is satisfied, create the array `B` which elements are defined by the formula:

$$b_{ij} = \begin{cases} 1 - w_i w_j, & i = j \\ -2 w_i w_j, & i \neq j \end{cases}$$

5. Write a function which prints an array passed as its argument to the file "mac.txt". Run the function with the array `B` as the argument.

6.

Write two functions:

a. the first one should compute a product of two matrices `A` and `B`: $C = A \cdot B$, or in another way $C_{ij} = \sum_{k=1}^{M} A_{ik} B_{kj}$
b. the second one should compute a transposition of a given matrix.

7.

Use both functions from the point 6 and calculate the matrix: $C = B \cdot B^T$.