

1. Create 2 of 3x3 matrix then let the user input all members in the array. After that, multiply those array and print the result.
 2. Write a C program that does the followings.
 - a. Create a 2D array of size N x N, where N is specified by the user; N is in the range 3 to 30.
 - b. Draw a Z on the array with a character specified by the user. Fill the array of size N x N with space and a character specified by the user.
- ***First, you have to keep value of a character and space in array of size N x N and then display the value as follows:

```

Enter number and character: 4 F
FFFF
 F
  F
FFFF
  
```

```

Enter number and character: 6 T
TTTTTT
   T
  T
 T
 T
TTTTTT
  
```

3. Write the program that receive numbers to fill in 3x3 matrix, then transpose it and print the result.
Ex.

1	5	7
3	8	2
4	9	2

VVVVVVV

1	3	4
5	8	9
7	2	2

4. From 3.) Modify the program to receive nxm matrix and also receive those numbers to fill in the array. Then, check if the input matrix is symmetric or not. [Maximum size of row,column is 10]
- **Symmetric matrix must be the square matrix (same amount of row and column)
 - **Symmetric matrix must contains the same numbers order when transposed.

```
Enter number of rows & columns of the Matrix:4 5
Symmetric matrix must be a square matrix
```

```
Enter number of rows & columns of the Matrix:4 4
Enter element 1,1: 1
Enter element 1,2: 2
Enter element 1,3: 3
Enter element 1,4: 4
Enter element 2,1: 2
Enter element 2,2: 5
Enter element 2,3: 5
Enter element 2,4: 5
Enter element 3,1: 3
Enter element 3,2: 5
Enter element 3,3: 0
Enter element 3,4: 0
Enter element 4,1: 4
Enter element 4,2: 5
Enter element 4,3: 0
Enter element 4,4: 1
The matrix is a symmetric
```

```
Enter number of rows & columns of the Matrix:4 4
Enter element 1,1: 1
Enter element 1,2: 2
Enter element 1,3: 3
Enter element 1,4: 4
Enter element 2,1: 1
Enter element 2,2: 2
Enter element 2,3: 3
Enter element 2,4: 4
Enter element 3,1: 1
Enter element 3,2: 2
Enter element 3,3: 3
Enter element 3,4: 4
Enter element 4,1: 1
Enter element 4,2: 2
Enter element 4,3: 3
Enter element 4,4: 4
The matrix is not a symmetric
```

1	5	7
5	8	2
7	2	9

The matrix is symmetric!

5. Create nxn matrix and let user put all numbers. Then check if that input matrix is Magic Square or not.

**Magic square is the matrix that has the same sum of all row, column, diagonal.

2	7	6	→15	
9	5	1	→15	
4	3	8	→15	
↙15	↓15	↓15	↓15	↘15

10	3	8
5	7	9
6	11	4

This is a Magic Square!

1	2	9
4	6	1
2	8	4

This is a NOT Magic Square!

8	11	14	1
13	2	7	12
3	16	9	6
10	5	4	15

This is a Magic Square!