

```

1  /// Final Lab 2557-1: Z
2  /// Note: this solution use 2D array which makes it relatively slow due to
3  ///   overhead from array access.
4
5  #include <stdio.h>
6
7  int A[500][500];
8
9  int main() {
10     int N;
11     scanf("%d", &N);
12     for(int row = 0; row < N; ++row) {
13         for(int col = 0; col < N; ++col) {
14             A[row][col] = -1;
15         }
16     }
17     int val = 0;
18     for(int i = 0; i < N; ++i) {
19         A[0][i] = val;
20         val = (val + 1) % 10;
21     }
22
23     for(int row = 1; row < N - 1; ++row) {
24         A[row][N - row - 1] = val;
25         val = (val + 1) % 10;
26     }
27
28     for(int i = 0; i < N; ++i) {
29         A[N-1][i] = val;
30         val = (val + 1) % 10;
31     }
32
33     // Start to print
34     for(int row = 0; row < N; ++row) {
35         for(int col = 0; col < N; ++col) {
36             if(A[row][col] < 0)
37                 printf(" ");
38             else
39                 printf("%d ", A[row][col]);
40         }
41         printf("\n");
42     }
43 }

```