

Lab 3 - Magic Box

```
2  #include <stdlib.h>
3  #include<windows.h>
4  #include <time.h>
5  void gotoxy( x, y);
6  int main()
7  {
8      int size = 0;
9
10     printf("Enter the  an odd size of the box: ");
11     scanf("%d", &size);
12
13     if( size % 2 ==0 )
14     {
15         while(size % 2 ==0)
16         {
17             printf("Please Enter a valid \"odd\" number:");
18             scanf("%d", &size);
19         }
20     }
21     system("cls");
22     printf("Magic Square with size %d", size);
23
24     int row =1;
25     int col =(size+1)/ 2 ;
26     int value=1;
27
28     for(int i = 0 ; i< size*size ; i++)
29     {
30         gotoxy(col*4,row);
31         sleep(1);
32         printf("%4d", value);
33
34         if(0 == value % size )
35         {
36             row++ ;
37         }
38         else
39         {
40             row--;
41             col--;
42         }
43         if(0 == row)
44         {
45             row = size ;
46         }
47         if( 0 == col)
48         {
49             col = size;
50         }
51         value ++ ;
52     }
53
54     return 0;
55 }
```

"H:\3) C\Labs\Lab_2\magic_box\bin\Debug\magic_box.exe"

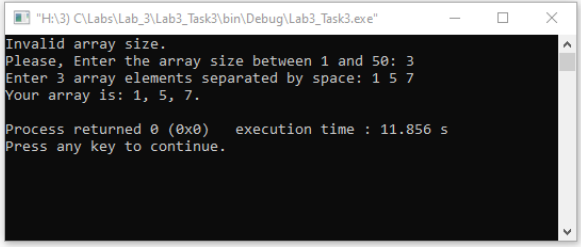
Magic Square with size 3

```
6  1  8
7  5  3
2  9  4
```

Process returned 0 (0x0) execution time : 21.201 s
Press any key to continue.

Lab 3 – Question 2

```
4  #define SIZE 50
5  int main()
6  {
7      int arr[SIZE] = {0};
8      int actual_size;
9
10     printf("Please, Enter the array size between 1 and %d: ", SIZE);
11     scanf("%d", &actual_size);
12
13     while(actual_size < 0 || actual_size > SIZE){
14         printf("Invalid array size. \n");
15         printf("Please, Enter the array size between 1 and %d: ", SIZE);
16         scanf("%d", &actual_size);
17     }
18
19     // Take the array elements from the user
20     printf("Enter %d array elements separated by space: ", actual_size);
21     for (int i = 0; i < actual_size; i++){
22         scanf("%d", &arr[i]);
23     }
24
25     // Print the array elements
26     printf("Your array is: ");
27     for (int i = 0; i < actual_size - 1; i++){
28         printf("%d, ", arr[i]);
29     }
30     printf("%d.", arr[actual_size - 1]); // to solve the last ", in the array ==> 1, 2, XXX
31     printf("\n");
32     return 0;
33 }
```



Lab 3 – Question 3

```
1  #include <stdio.h>
2  #include <stdlib.h>
3  #define SIZE 10
4
5  int main() {
6      int arr[SIZE] = {-1, 2, 4, 7, 100, 4, 0, -3, -9, 10};
7      int max = arr[0];
8      int min = arr[0];
9
10     for (int i = 1; i < SIZE; i++) {
11         if (arr[i] > max) {
12             max = arr[i];
13         } else if (arr[i] < min) {
14             min = arr[i];
15         }
16     }
17
18     printf("In this Array: ");
19     for(int i = 0; i < SIZE; i++){
20         printf("%d, ", arr[i]);
21     }
22     printf("\n");
23     printf("Max Number is: %d\n", max);
24     printf("Min Number is: %d", min);
25
26     return 0;
27 }
28
```

