

```
1  #include <stdio.h>
2  #include <stdlib.h>
3
4  #define NUM_ROWS 5
5  #define NUM_COLUMNS 3
6
7  int main(void)
8  {
9      //variable declarations
10     int iArray[NUM_ROWS][NUM_COLUMNS];
11     int i, j;
12
13     //code
14     // *** EVERY ROW OF A 2D ARRAY IS AN INTEGER ARRAY ITSELF COMPRISING OF
15     // 'NUM_COLUMNS' INTEGER ELEMENTS ***
16     // *** THERE ARE 5 ROWS AND 3 COLUMNS IN A 2D INTEGER ARRAY. EACH OF THE 5
17     // ROWS IS A 1D ARRAY OF 3 INTEGERS.
18     // *** HENCE, EACH OF THESE 5 ROWS THEMSELVES BEING ARRAYS, WILL BE THE
19     // BASE ADDRESSES OF THEIR RESPECTIVE ROWS ***
20
21     for (i = 0; i < NUM_ROWS; i++)
22     {
23         for (j = 0; j < NUM_COLUMNS; j++)
24             *(iArray[i] + j) = (i + 1) * (j + 1); // 'iArray[i]' Can Be Treated
25             As 1D Array Using Pointers ...
26     }
27
28     printf("\n\n");
29     printf("2D Integer Array Elements Along With Addresses : \n\n");
30     for (i = 0; i < NUM_ROWS; i++)
31     {
32         for (j = 0; j < NUM_COLUMNS; j++)
33         {
34             printf("(iArray[%d] + %d)= %d \t \t At Address (iArray[i] + j) : %p\n", i, j, *(iArray[i] + j), (iArray[i] + j));
35         }
36         printf("\n\n");
37     }
38
39     return(0);
40 }
41
```