

```
1 #include <stdio.h>
2
3 int main(void)
4 {
5     // variable declaration
6     int iArray_One[5];
7     int iArray_Two[5][3];
8     int iArray_Three[100][100][5];
9
10    int num_rows_2D;
11    int num_columns_2D;
12
13    int num_rows_3D;
14    int num_columns_3D;
15    int depth_3D;
16
17    // code
18    printf("\n\n");
19    printf("Size of 1-D integer array iArray_One = %lu\n", sizeof(iArray_One));
20    printf("Number of elements in 1-D integer array iArray_One = %lu\n", (sizeof
    (iArray_One) / sizeof(int)));
21
22    printf("\n\n");
23    printf("Size of 2-D integer array iArray_Two = %lu\n", sizeof(iArray_Two));
24
25    printf("Number rows in 2-D integer array iArray_Two = %lu\n", (sizeof
    (iArray_Two) / sizeof(iArray_Two[0])));
26    num_rows_2D = (sizeof(iArray_Two) / sizeof(iArray_Two[0]));
27
28    printf("Number of elements (columns) in each row in 2-D integer array
    iArray_Two = %lu\n", (sizeof(iArray_Two[0]) / sizeof(iArray_Two[0][0])));
29    num_columns_2D = (sizeof(iArray_Two[0]) / sizeof(iArray_Two[0][0]));
30
31    printf("Number of elements in total in 2-D Array iArray_Two = %d\n",
    (num_rows_2D * num_columns_2D));
32
33    printf("\n\n");
34
35    printf("\n\n");
36    printf("Size of 3-D integer array iArray_Three = %lu\n", sizeof
    (iArray_Three));
37
38    printf("Number rows in 3-D integer array iArray_Three = %lu\n", (sizeof
    (iArray_Three) / sizeof(iArray_Three[0])));
39    num_rows_3D = (sizeof(iArray_Three) / sizeof(iArray_Three[0]));
40
41    printf("Number of elements (columns) in one row in 3-D integer array
    iArray_Three = %lu\n", (sizeof(iArray_Three[0]) / sizeof(iArray_Three[0]
    [0])));
42    num_columns_3D = (sizeof(iArray_Three[0]) / sizeof(iArray_Three[0][0]));
43
44    printf("Number of elements (depth) in one column in one row in 3-D integer
```

```
    array iArray_Three = %lu\n", (sizeof(iArray_Three[0][0]) / sizeof
    (iArray_Three[0][0][0]));
45 depth_3D = (sizeof(iArray_Three[0][0]) / sizeof(iArray_Three[0][0][0]));
46
47 printf("Number of elements in total in 3-D Array iArray_Three = %d\n",
    (num_rows_3D * num_columns_3D * depth_3D));
48
49 printf("\n\n");
50
51 return(0);
52 }
53
54
55
```