

```
1  #include <stdio.h>
2  #include <stdlib.h>
3
4  int main(void)
5  {
6      //function declarations
7      void MultiplyArrayElementsByNumber(int *, int, int);
8
9      //variable declaration
10     int *iArray = NULL;
11     int num_elements;
12     int i, num;
13
14     //code
15     printf("\n\n");
16     printf("Enter How Many Elements You Want In The Integer Array : ");
17     scanf("%d", &num_elements);
18
19     iArray = (int *)malloc(num_elements * sizeof(int));
20     if (iArray == NULL)
21     {
22         printf("MEMORY ALLOCATION TO 'iArray' HAS FAILED !!! EXITTING NOW...\n ");
23         exit(0);
24     }
25
26     printf("\n\n");
27     printf("Enter %d Elements For The Integer Array : \n\n", num_elements);
28     for (i = 0; i < num_elements; i++)
29         scanf("%d", &iArray[i]);
30
31     // ***** ONE *****
32     printf("\n\n");
33     printf("Array Before Passing To Function MultiplyArrayElementsByNumber() : \n\n");
34     for (i = 0; i < num_elements; i++)
35         printf("iArray[%d] = %d\n", i, iArray[i]);
36
37     printf("\n\n");
38     printf("Enter The Number By Which You Want To Multiply Each Array Element : ");
39     scanf("%d", &num);
40
41     MultiplyArrayElementsByNumber(iArray, num_elements, num);
42
43     printf("\n\n");
44     printf("Array Returned By Function MultiplyArrayElementsByNumber() : \n\n");
45     for (i = 0; i < num_elements; i++)
46         printf("iArray[%d] = %d\n", i, iArray[i]);
47
48     if (iArray)
49     {
50         free(iArray);
51         iArray = NULL;
52         printf("\n\n");
```

```
53     printf("MEMORY ALLOCATED TO 'iArray' HAS BEEN SUCCESSFULLY FREED !!!\n \n");
54 }
55
56 return(0);
57 }
58
59 void MultiplyArrayElementsByNumber(int *arr, int iNumElements, int n)
60 {
61     //variable declarations
62     int i;
63
64     //code
65     for (i = 0; i < iNumElements; i++)
66         arr[i] = arr[i] * n;
67 }
68
```