

```
1  #include <stdio.h>
2
3  // DEFINING STRUCT
4  struct MyData
5  {
6      int i;
7      float f;
8      double d;
9  };
10
11 int main(void)
12 {
13     //variable declarations
14     int i_size;
15     int f_size;
16     int d_size;
17     int struct_MyData_size;
18     int pointer_to_struct_MyData_size;
19
20     typedef struct MyData* MyDataPtr;
21
22     MyDataPtr pData;
23
24     //code
25     printf("\n\n");
26
27     pData = (MyDataPtr)malloc(sizeof(struct MyData));
28     if (pData == NULL)
29     {
30         printf("FAILED TO ALLOCATE MEMORY TO 'struct MyData' !!! EXITTING NOW ... ↗
31             \n\n");
32         exit(0);
33     }
34     else
35         printf("SUCCESSFULLY ALLOCATED MEMORY TO 'struct MyData' !!!\n\n");
36
37     //Assigning Data Values To The Data Members Of 'struct MyData'
38     pData->i = 30;
39     pData->f = 11.45f;
40     pData->d = 1.2995;
41
42     //Displaying Values Of The Data Members Of 'struct MyData'
43     printf("\n\n");
44     printf("DATA MEMBERS OF 'struct MyData' ARE : \n\n");
45     printf("i = %d\n", pData->i);
46     printf("f = %f\n", pData->f);
47     printf("d = %lf\n", pData->d);
48
49     //Calculating Sizes (In Bytes) Of The Data Members Of 'struct MyData'
50     i_size = sizeof(pData->i);
51     f_size = sizeof(pData->f);
```

```
52     d_size = sizeof(pData->d);
53
54     //Displaying Sizes (In Bytes) Of The Data Members Of 'struct MyData'
55     printf("\n\n");
56     printf("SIZES (in bytes) OF DATA MEMBERS OF 'struct MyData' ARE : \n\n");
57     printf("Size of 'i' = %d bytes\n", i_size);
58     printf("Size of 'f' = %d bytes\n", f_size);
59     printf("Size of 'd' = %d bytes\n", d_size);
60
61     //Calculating Size (In Bytes) Of the entire 'struct Mydata'
62     struct_MyData_size = sizeof(struct MyData);
63     pointer_to_struct_MyData_size = sizeof(MyDataPtr);
64
65     //Displaying Sizes (In Bytes) Of the entire 'struct Mydata'
66     printf("\n\n");
67     printf("Size of 'struct MyData' : %d bytes\n\n", struct_MyData_size);
68     printf("Size of pointer to 'struct MyData' : %d bytes\n\n",           ↗
        pointer_to_struct_MyData_size);
69
70     if (pData)
71     {
72         free(pData);
73         pData = NULL;
74         printf("MEMORY ALLOCATED TO 'struct MyData' HAS BEEN SUCCESSFULLY   ↗
            FREED !!!\n\n");
75     }
76
77     return(0);
78 }
79
80
```