

```
1 #include <stdio.h>
2
3 //DEFINING STRUCT
4 struct MyPoint
5 {
6     int x;
7     int y;
8 };
9
10 //DEFINING STRUCT
11 struct MyPointProperties
12 {
13     int quadrant;
14     char axis_location[10];
15 };
16
17 int main(void)
18 {
19     //variable declarations
20     struct MyPoint point; //declaring a single variable of type 'struct MyPoint'
21     struct MyPointProperties point_properties; //declaring a single variable of
22     type 'struct MyPointProperties' locally...
23
24     //code
25     //User Input For The Data Members Of 'struct MyPoint' variable 'point_A'
26     printf("\n\n");
27     printf("Enter X-Coordinate For A Point : ");
28     scanf("%d", &point.x);
29     printf("Enter Y-Coordinate For A Point : ");
30     scanf("%d", &point.y);
31
32     printf("\n\n");
33     printf("Point Co-ordinates (x, y) Are : (%d, %d) !!!\n\n", point.x, point.y);
34
35     if (point.x == 0 && point.y == 0)
36         printf("The Point Is The Origin (%d, %d) !!!\n", point.x, point.y);
37     else // Atleast One of the two values (either 'X' or 'Y' or BOTH) is a non-
38         zero value...
39     {
40         if (point.x == 0) // If 'X' IS ZERO...OBVIOUSLY 'Y' IS THE NON-ZERO VALUE
41         {
42             if (point.y < 0) // If 'Y' IS -ve
43                 strcpy(point_properties.axis_location, "Negative Y");
44
45             if (point.y > 0) // If 'Y' IS +ve
46                 strcpy(point_properties.axis_location, "Positive Y");
47
48             point_properties.quadrant = 0; // A Point Lying On Any Of The Co-
49             ordinate Axes Is NOT A Part Of ANY Quadrant...
50             printf("The Point Lies On The %s Axis !!!\n\n",
51                 point_properties.axis_location);
52         }
53     }
```

```
48
49     }
50     else if (point.y == 0) // If 'Y' IS ZERO...OBVIOUSLY 'X' IS THE NON-ZERO
        VALUE
51     {
52         if (point.x < 0) // If 'X' IS -ve
53             strcpy(point_properties.axis_location, "Negative X");
54
55         if (point.x > 0) // If 'X' IS +ve
56             strcpy(point_properties.axis_location, "Positive X");
57
58         point_properties.quadrant = 0; // A Point Lying On Any Of The Co-
            ordinate Axes Is NOT A Part Of ANY Quadrant...
59         printf("The Point Lies On The %s Axis !!!\n\n",
            point_properties.axis_location);
60     }
61     else // BOTH 'X' AND 'Y' ARE NON-ZERO
62     {
63         point_properties.axis_location[0] = '\0'; // A Point Lying In ANY Of
            The 4 Quadrants Cannot Be Lying On Any Of The Co-ordinate Axes...
64
65         if (point.x > 0 && point.y > 0) // 'X' IS +ve AND 'Y' IS +ve
66             point_properties.quadrant = 1;
67
68         else if (point.x < 0 && point.y > 0) // 'X' IS -ve AND 'Y' IS +ve
69             point_properties.quadrant = 2;
70
71         else if (point.x < 0 && point.y < 0) // 'X' IS -ve AND 'Y' IS -ve
72             point_properties.quadrant = 3;
73
74         else // 'X' IS +ve AND 'Y' IS -ve
75             point_properties.quadrant = 4;
76
77         printf("The Point Lies In Quadrant Number %d !!!\n\n",
            point_properties.quadrant);
78     }
79 }
80
81 return(0);
82 }
83
```