

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

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