

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

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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
```