

```
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
                           //MyPointProprties' locally...
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         {
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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",
56         point_properties.axis_location);
57 }
58 else // BOTH 'X' AND 'Y' ARE NON-ZERO
59 {
60     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...
61
62     if (point.x > 0 && point.y > 0) // 'X' IS +ve AND 'Y' IS +ve
63         point_properties.quadrant = 1;
64
65     else if (point.x < 0 && point.y > 0) // 'X' IS -ve AND 'Y' IS +ve
66         point_properties.quadrant = 2;
67
68     else if (point.x < 0 && point.y < 0) // 'X' IS -ve AND 'Y' IS -ve
69         point_properties.quadrant = 3;
70
71     else // 'X' IS +ve AND 'Y' IS -ve
72         point_properties.quadrant = 4;
73
74     printf("The Point Lies In Quadrant Number %d !!!\n\n",
75         point_properties.quadrant);
76 }
77 return(0);
78 }
79
```