

Aim: Understanding the structures.

A point in X-Y coordinate system can be represented by a structure in C. Implement the followings:

- a) Write a structure declaration `struct point` that stores x and y coordinates of a point and its distance to origin (0, 0). (x and y may be of type int, whereas distance should be a real value.)
- b) Write a function that takes an array of points together with the size of the array, and returns the point closest to the origin. The prototype of the function is given below:

```
struct point findClosestToOrigin (struct point array[ ], int arraySize);
```

- c) In `main`,
 - i. read the x-y coordinates of 3 points from the user.
 - ii. calculate the distance of each point to the origin and store the corresponding result in the related structure.
 - iii. call your function you have implemented in part “b” and print all information of the point closest to the origin.

HINT:

- The distance d between two points (x1, y1) and (x2, y2) is given by the formula:

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

- Function prototype for `sqrt` is declared in `math.h` as follows:

```
double sqrt(double value);
```