<https://www.geeksforgeeks.org/find-k-closest-points-to-the-origin/>

# Find K Closest Points to the Origin

Given a list of points on the 2-D plane and an integer K. The task is to find K closest points to the origin and print them.  
**Note**: The distance between two points on a plane is the [Euclidean distance](https://en.wikipedia.org/wiki/Euclidean_distance).

import java.util.\*;

class GFG{

// Function to print required answer

static void pClosest(int [][]pts, int k)

{

    int n = pts.length;

    int[] distance = new int[n];

    for(int i = 0; i < n; i++)

    {

        int x = pts[i][0], y = pts[i][1];

        distance[i] = (x \* x) + (y \* y);

    }

    Arrays.sort(distance);

    // Find the k-th distance

    int distk = distance[k - 1];

    // Print all distances which are

    // smaller than k-th distance

    for(int i = 0; i < n; i++)

    {

        int x = pts[i][0], y = pts[i][1];

        int dist = (x \* x) + (y \* y);

        if (dist <= distk)

            System.out.println("[" + x + ", " + y + "]");

    }

}

// Driver code

public static void main (String[] args)

{

    int points[][] = { { 3, 3 },

                       { 5, -1 },

                       { -2, 4 } };

    int K = 2;

    pClosest(points, K);

}

}