INFORMATICS ASSIGNMENTS

Assignment No. 287

* The Point struct represents a point in the 2D plane with integer coordinates.
* The orientation function takes three points p, q, and r as input and returns:
* 0 if p, q, and r are collinear.
* 1 if p, q, and r make a counterclockwise turn.
* 2 if p, q, and r make a clockwise turn.
* The isConvex function takes a vector of points representing a polygon as input and returns true if the polygon is convex and false otherwise. The function first checks if the polygon has at least 3 vertices, because a polygon with less than 3 vertices cannot be convex. Then, for each consecutive triple of vertices, the function computes the orientation of the triple using the orientation function. If the orientations of all triples are the same (either 0, 1, or 2), then the polygon is convex; otherwise, it is not convex.
* In the main function, the program reads the input data (the number of vertices and the coordinates of each vertex) and calls the isConvex function to determine whether the polygon is convex or not. The program then outputs "YES" or "NO" accordingly.

Assignment No. 2806

* There are different ways to approach this problem, but one possible solution is to use the midpoint formula and the distance formula to find the coordinates of the fourth sniper.
* Here's an example C++ code that takes six integers as input and outputs two integers as the coordinates of the fourth sniper: