

Object oriented programming and software engineering

Laboratory No. 3 (a)

C ++ Introduction

As part of laboratory no. 3, perform the following tasks (basics of programming in C ++). You can use any source code editor, as well as publicly available libraries.

1. Create a class (named point) that describes the point in the Cartesian system. This class should have component functions that enable:
 - a. assigning the coordinates of a point,
 - b. displaying the coordinates of a point,
 - c. calculating the distance of a point from another point (of the same class),
 - d. moving a point by the vector [x, y]
 - e. extend the task to calculate the coordinates of a point rotated in relation to the origin of the coordinate system by the angle alpha
2. Create a class describing the circle in the Cartesian system. Use the point class you created in the previous task.
 - a. The class should be able to initialize the values describing the circle (both in the form of the center point and radius length, as well as the center point and radius length),
 - b. write information about itself (center, radius length),
 - c. calculate its area, determine the number of points in common with the object of such same class.

Source codes from all points should be attached to the report (on the UPEL platform).