# **Quiz 1 – 10 marks**

# Section 1.1 – Introduction to design of algorithms

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**Question**: Design an algorithm (pseudocode) that gets as input the (XA, YA) coordinates of a point A and checks whether the point is inside, on border, or outside a given circle with a center C(XC, YC) and a radius r. Print an appropriate message for each case. Use the same pseudocode style and format used in the slides.

**Hint**: Compare d(A, C) and r where d(A, C) is the distance between points A and C.

**Answer**:

**ALGORITHM**: isInside (XC, YC, r, XA, YA)

**INPUT**: Two set of paired integers (X, Y) for two points A and C

**OUTPUT**: A message based on the location of A in reference to C, the center of the circle

d(A, C) 🡨

isInside (XC, YC, r, XA, YA)

**if** d(A, C) > r

**print** “This point is outside of the circle”

**else if** d(A, C) < r

**print** “This point is inside the circle”

**else** d(A, C) = r

**print** “This point is on the border”

**return**