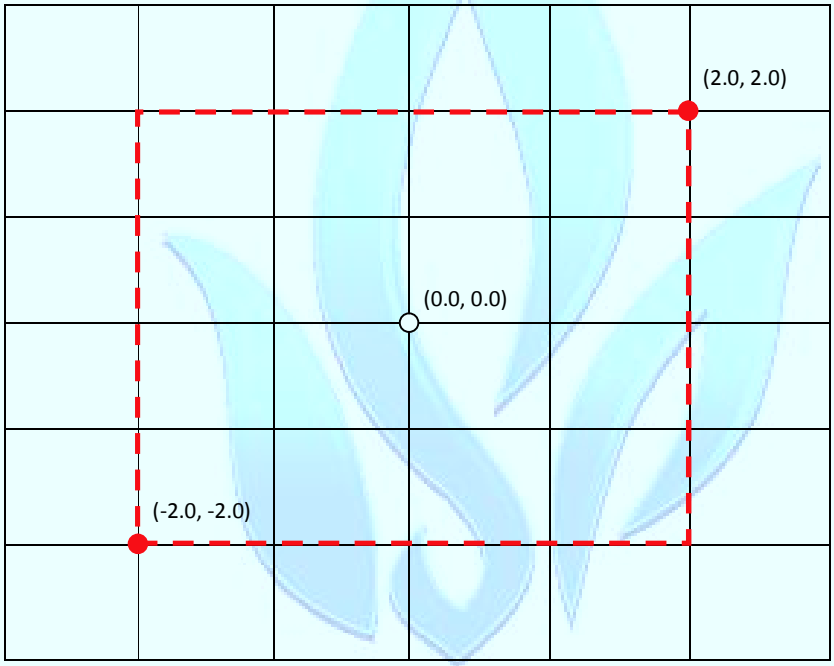
Point-Rectangle Intersection Test

Name: _____ Date: _____
Section:_____

1.) Create a windows form application program that accepts 2 real number inputs representing the x and y coordinate values of a point in a 2D cartesian coordinate system.

2.) The program should determine whether the given point is within the boundary of a rectangle. The rectangle boundaries are defined by two points given as point (-2.0, -2.0) and point (2.0, 2.0). Each point is represented by 2 real number values representing the x and y coordinate values of a point in a 2D cartesian coordinate system.



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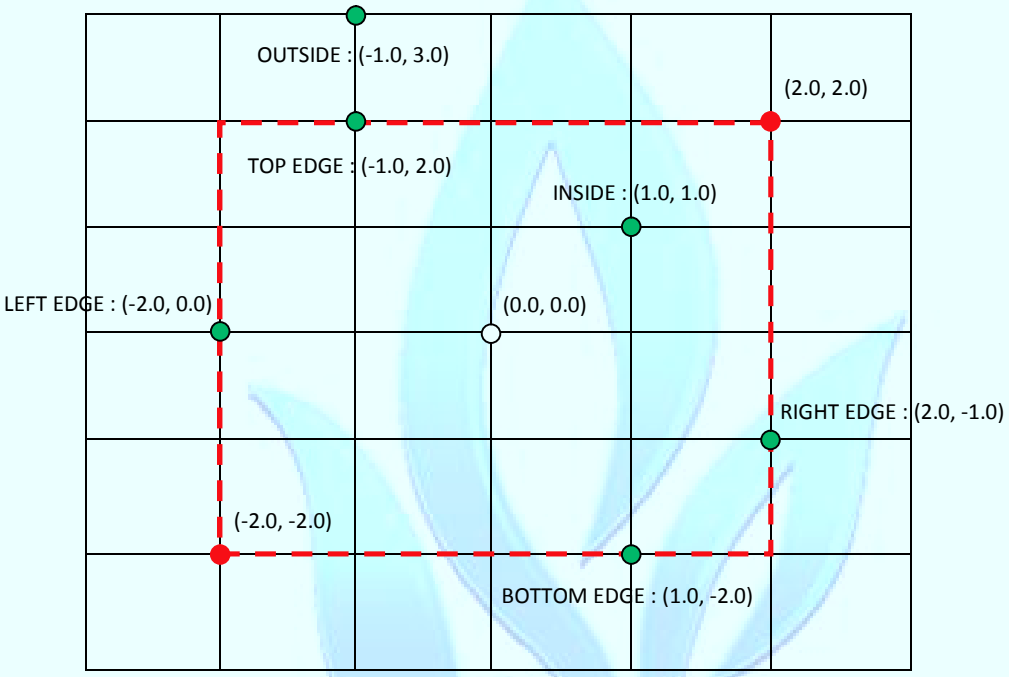
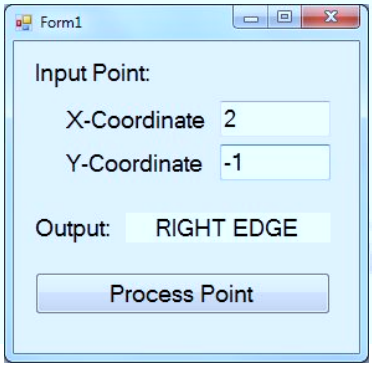
3.) The program must have 6 possible outputs to be displayed on a textbox or label control:
   a. INSIDE: the specified point is inside the boundaries of the rectangle
   b. OUTSIDE: the specified point is outside the boundaries of the rectangle
   c. LEFT EDGE: the specified point is on the left edge of the rectangle's boundary
   d. RIGHT EDGE: the specified point is on the right edge of the rectangle's boundary
   e. TOP EDGE: the specified point is on the top edge of the rectangle's boundary
   f. BOTTOM EDGE: the specified point is on the bottom edge of the rectangle's boundary

See figure below for illustration



4.) The figure below shows how the program looks like.



5.) Ensure that the program perform data validation that prompts the user using a message box. The following data checks should be present
   a. Empty entries for the X-Coordinate input
   b. Valid numerical entries for the Y-Coordinate input (Use TryParse)