class Rectangle2D {

private:

- x, y, width, height: all doubles

- left{x-width/2}, right{x+width/2}, up{y+width/2}, down{y-width/2}: all doubles

public:

+ Rectangle2D()

+ Rectangle2D(double X, double Y, double W, double H)

+ double getX() constant

+ double getY() constant

+ double getWidth() constant

+ double getHeight() constant

+ double getLeft() constant

+ double getRight() constant

+ double getUp() constant

+ double getDown() constant

+ void setX(double X)

+ void setY(double Y)

+ void setWidth(double W)

+ void setHeight(double H)

+ double getArea() constant

+ getPerimeter() constant

+ bool contains(double X, double Y) constant

+ bool contains(Rectangle2D r) constant

+ bool overlaps(Rectangle2D r) constant

};