**Graphics Editor Software**

**Class Diagram**

* **Class Diagram Components**
  + **Classes**  
     1. GraphicsEditor  
      -Attributes : name, filePath  
      -Methods : saveGraphics(), loadGraphics(), importBitmap(), zoom(), fitScreen(), pan()  
      
     2. GeometricObject (abstract class)  
      - Attributes : position, color, lineWidth, fillStyle  
      - Methods : draw(), move(), resize(), changeColor(), changeLineStyle()  
      
     3. Circle (inherits from GeometricObject)  
      - Attributes : radius  
      - Methods : calculateArea(), calculatePerimeter()

4. Rectangle (inherits from GeometricObject)  
  - Attributes : width, height  
  - Methods : calculateArea(), calculatePerimeter()

1. Polygon (inherits from GeometricObject)

- Attributes : vertices  
  - Methods : calculateArea(), calculatePerimeter()

1. Text (inherits from GeometricObject)

  - Attributes : content, fontSize  
  - Methods : changeTextContent()

1. Clipboard

  - Attributes : items[]  
  - Methods : Methods: copy(), paste(), clear()

1. Group

  - Attributes : objects[]  
  - Methods : addObject(), removeObject(), moveGroup(), copyGroup(), deleteGroup()

* **Relationships**
  + **Inheritance:**
    - Circle, Rectangle, Polygon, and Text inherit from GeometricObject.
  + **Association:**
    - GraphicsEditor uses Clipboard, Group, and GeometricObject.
    - Group contains multiple GeometricObject.

GeometricObject

- position double

- color object

- linewidth int

- fillStyle object

+ draw()

+ move()

+ resize()

+ changeColor()

+ changeLineStyle()

+ fitScreen()

+ pan()

Group

- objects[] object Array

+ addObjects()

+ removeObject()

+ moveGroup()

+ copyGroup()

+ deleteGroup()

Text

- font object

- fontSize double

+ changeTextContent()

Polygon

- vertices double

+ calculateArea()

+ calculatePermeter()

Rectangle

- width double

- height double

+ calculateArea()

+ calculatePermeter()

Circle

- radius double

+ calculateArea()

+ claculatePermeter()

Clipboard

- items[] object Array

+ copy()

+ paste()

+ clear()

Graphics Editor

- name String

- filePath String

+ saveGraphics()

+ loadGraphics()

+ importBitmap()

+ zoom()

+ fitScreen()

+ pan()

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Uses

1

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Contains

1

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