UML Class Diagarm

Drawing Tool

+openApplication(): void

create file

DrawingFile

-name: String

+createFile(): void
+saveFile(): void
+openFile(): void
+exportAs(): void

export

XML Exporter

+export()

implements

Exporter

+export()

1

0..*

Drawing Objects

-isSelected: Boolean

+edit(): void
+copy(): void
+move(): void
+delete(): void
+createGroup(): void
+select()
+unSelect()

group

1..*

0..1

1..*

1

Group

-isSelected: Boolean

+createGroup(): void
+unGroup(): void
+unGroupAll(): void
+select()
+unSelect()

Lines

-x1: int
-y1: int
-x2: int
-y2: int
-colour: char

+getCoordinates(): void
+getColour(): char

Rectangle

-x1: int
-y1: int
-x2: int
-y2: int
-colour: char
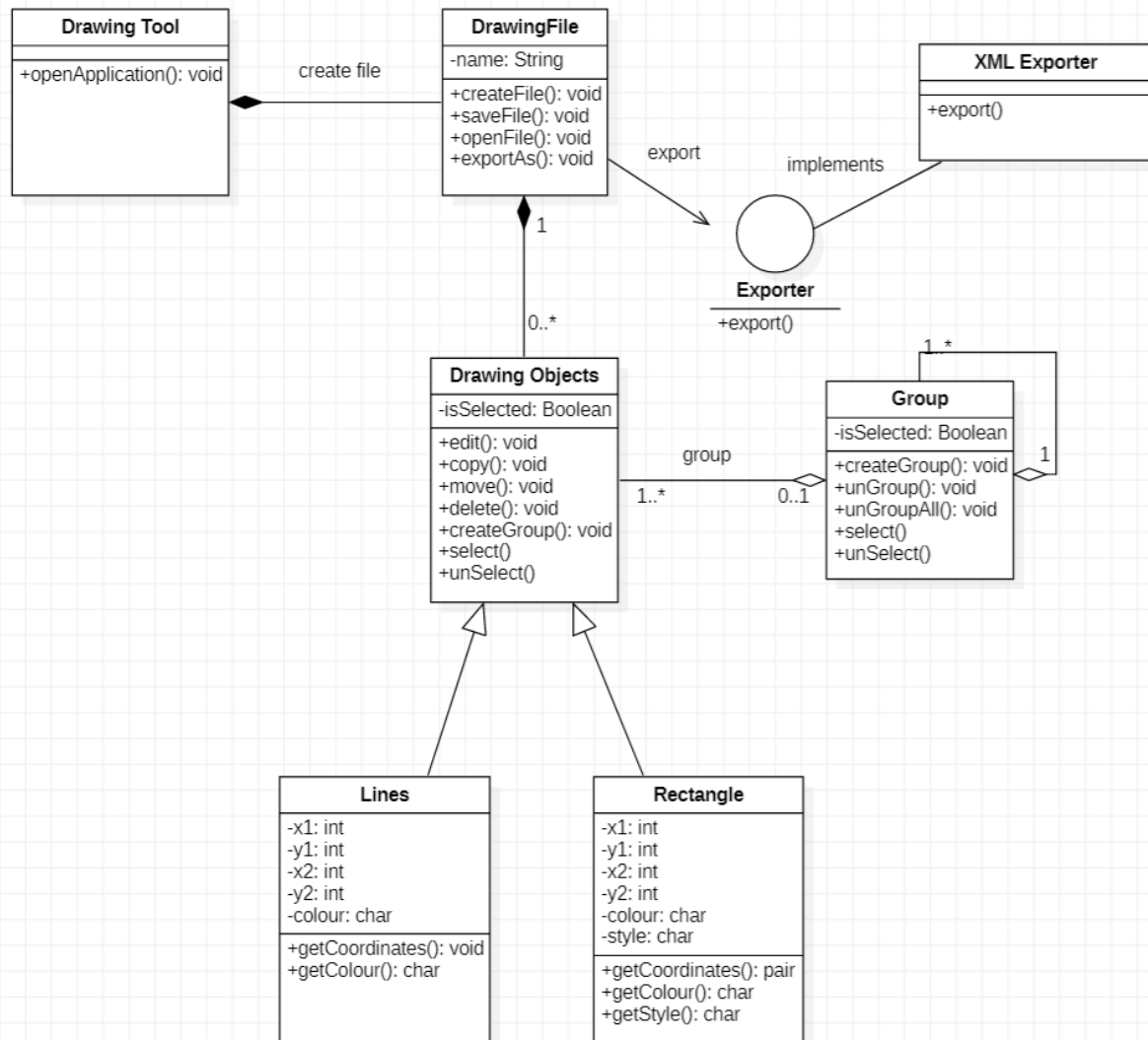-style: char

+getCoordinates(): pair
+getColour(): char
+getStyle(): char

Description

- Drawing Editor is the name of the application.
- Drawing File is a class which is a composition of Drawing Editor class. A Drawing File has no existence without the Drawing Editor Application. It can create new file, open an existing file, save an unopened file, export a file.
- Exporter is an interface class that is supposed to have an abstract functionality for export. Specific file Exporter's are supposed to implement the functionality. For eg. different formats(JPEG, JPG, PDF) can implement this class.
- XML Exporter is a class that implements the exporter class and realizes the export method to create XML files.
- Drawing Objects is a class which is a composition of Drawing File class. A Drawing file can consist of 0 or more Drawing Objects. A Drawing Object can be the part of one Drawing File only. Also, Drawing Objects have no existence without Drawing File.
    - Edit method will give you permission to edit the coordinates, colour, style etc. whichever is applicable for your class.
    - Copy method will copy your object attributes and create another object with same attributes.
    - Move method will move the coordinates to new chosen coordinates.
    - Delete method will erase the object from the file.
    - createGroup method will group the selected objects.
    - Select method will select the objects and you can perform desired operations.
    - unSelect method will unSelect the objects.
- Lines and Rectangles are the generalization of Drawing Object class. Lines have starting coordinate and ending coordinate. Rectangles have top left coordinates and bottom right coordinates.
- Group is a class which is an aggregation of Drawing Objects class. A group can have 1 or more Drawing Objects. An object can belong to 0 or 1 group.
- Group class has recursive aggregation. A group can consist of multiple groups. A group can have 1 or more subgroups and a sub-group can be a part of one big parent group.