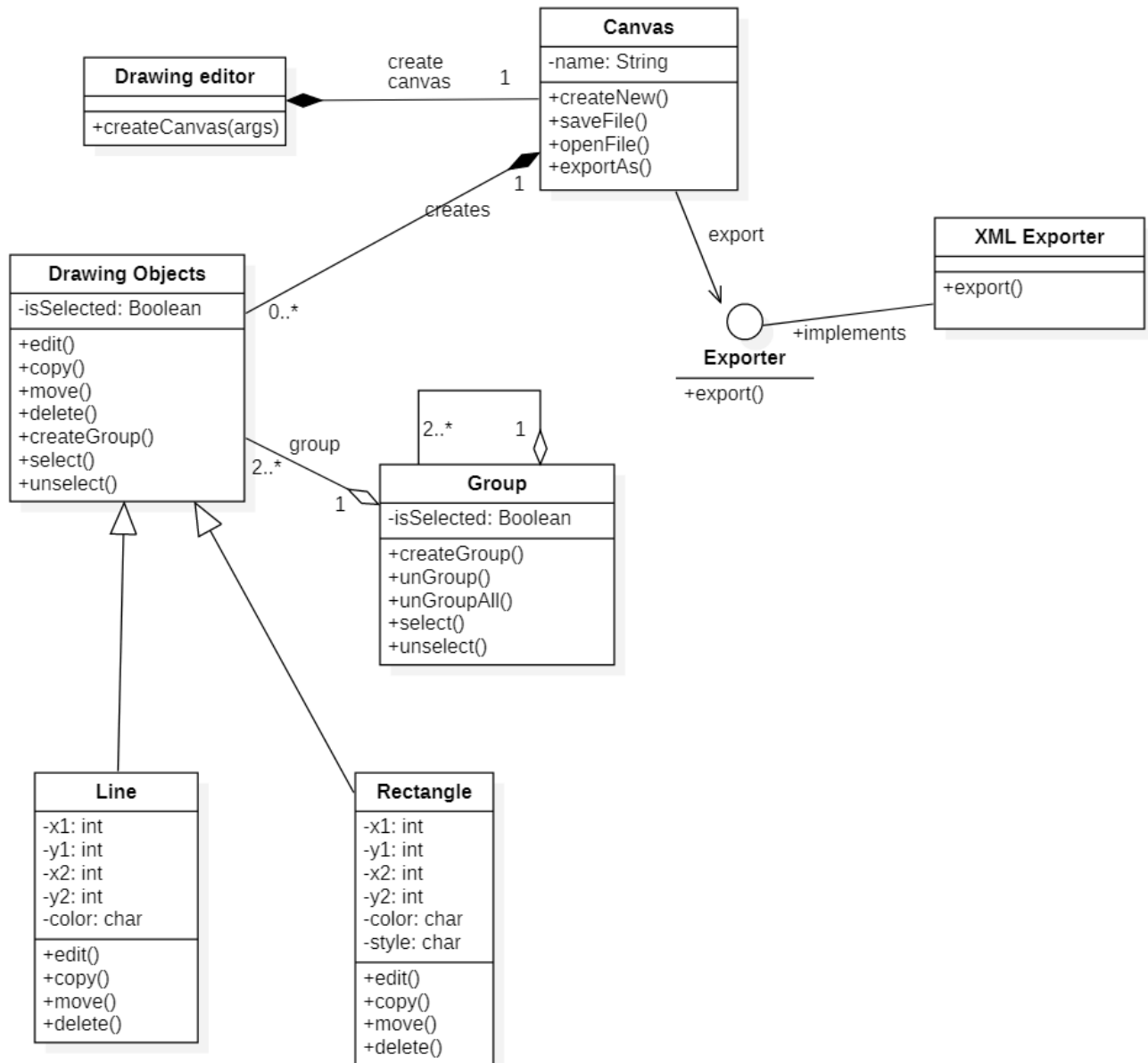


# Design Activity: Drawing Editor

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## UML Class Diagram



### Classes and Descriptions:

**Drawing Editor:** The drawing editor class creates the Canvas where it can open a file using command arguments or creates a new canvas/document.

**Canvas:** A new canvas can be created, an existing file can be opened, or a canvas can be saved into a file on disk. Drawing objects can be created from the canvas and is represented using a composition since objects cannot exist without the canvas. The canvas can be exported using an associated Exporter class.

**Drawing Objects :** A drawing object is created by the canvas from a tool box, It has an inheritable attribute called `isSelected` which maintains the state of the object whether it is selected and highlighted.

- The `edit()` method is used to show a display box which is supposed to display the attributes of the objects.
- The `move()` method is supposed to move the object from one coordinate to another
- `copy()` method replicates the object and imposes another on the canvas
- `delete()` method removes the object from the canvas
- `select()` and `unselect()` are used to highlight and unhighlight a object
- `group()` used to group objects together

**Group:** When multiple drawing objects are selected they can be grouped together, then Groups can be grouped further and be converted into further level groups. Groups can be disintegrated into objects using `ungroup all`, or a single level of group can be disintegrated. Just like objects groups can be selected and unselected.

**Line:** It is a subclass of the Drawing objects, which has its own coordinates for start and end of the line. The attribute called `color` can be represented using characters 'k', 'r', 'g', 'b'.

**Rectangle:** It is a subclass of the Drawing objects, which has top left coordinates and bottom right coordinates. The attribute called `color` can be represented using characters 'k', 'r', 'g', 'b' and style can also be character which can contain 's', 'r'.

Line and Rectangle is supposed to inherit and override the functionality for edit, move, copy and delete

**Exporter:** It is a interface class that is supposed to have an abstract functionality for export, specific file Exporter's are supposed to implement the functionality. Like in the future a JPEG exporter can easily implement this class.

**XML Exporter:** It is a class that implements the exporter class and realizes the export method to create XML files.