

# User Manual

COMP2021 Object-Oriented Programming (Fall 2025)

Group 17

## 1.Introduction

This CLEVIS tool can receive your input for creating shapes and can display them on a GUI. You must run this program with a JDK version  $> 24$ , else some key function must not work.

## 2.Commands Description

**Command:** *rectangle n x y w h*

Effect: Creates a new rectangle that has a name  $n$ , whose top-left corner is at location  $(x, y)$ , and whose width and height are  $w$  and  $h$ , respectively.

**Command:** *line n x1 y1 x2 y2*

Effect: Creates a new line segment that has a name  $n$  and whose two ends are at locations  $(x1, y1)$  and  $(x2, y2)$ , respectively.

**Command:** *circle n x y r*

Effect: Creates a new circle that has a name  $n$ , whose center is at location  $(x, y)$ , and whose radius is  $r$ .

**Command:** *square n x y l*

Effect: Creates a new square that has a name *n*, whose top-left corner is at location (*x*, *y*), and whose side length is *l*.

**Command:** *group n n1 n2 ...*

Effect: Creates a new shape named *n* by grouping existing shapes named *n1*, *n2*, ...

Notice that once a shape is added to a group, it no longer supports operation *delete*, *boundingbox*, *move*, *shapeAt*, *intersection*, and *list*.

**Command:** *ungroup n*

Effect: Ungroups shape *n* into its component shapes. After this operation, shape *n* is not defined, but shapes *n1*, *n2*, ...

**Command:** *delete n*

Effect: Deletes the shape named *n*. If a shape is a group, all its members are also deleted.

**Command:** *boundingbox n*

Effect: Calculates and outputs the minimum bounding box of the shape name *n* in the format “*x y w h*”, where *x* and *y* are the *x* and *y* coordinates of the top-left corner of the bounding box, while *w* and *h* are the width and height of the bounding box. Note that the bounding box of a group shape contains all of the shapes in the group

**Command:** *move n dx dy*

Effect: Moves the shape named *n*, horizontally by *dx* and vertically by *dy*. If shape *n* is

a group, all its component shapes are moved.

**Command:** *shapeAt x y*

Effect: Returns the name of the shape with the highest Z-index that covers point (x, y).

**Command:** *intersect n1 n2*

Effect: Reports whether two shapes n1 and n2 intersect with each other, i.e., whether their minimum bounding boxes share any internal points.

**Command:** *list n*

Effect: Lists the basic information about the shape named n. For each simple shape, lists the types of information used to construct the shape. For instance, lists the name, the center, and the radius of a circle. For each group shape, lists the name of the group and all of the shapes directly contained in the group.

**Command:** *listAll*

Effect: Lists the basic information about all of the shapes that have been drawn in decreasing Z-order. Use indentation to indicate the containing relation between group shapes and their component shapes.

**Command:** *quit*

Effect: Terminates the execution of Clevis.

### **3.Step-by-Step Instructions**

The main method is in INTERFACE.java.

This program must be run through command line, because it requires you to input the director or log files in the following format

-txt "*directory*" -html "*directory*"

Invalid directory will result in immediate termination of the program. If in the specified directory exists log files, they will be overwritten.

After the program is successfully launched, a GUI will pop up, on which exists a Cartesian coordinate that will display your shapes, and a text console that will display your command. However, this GUI is only interactable through your keyboard. You can zoom in/out with *ctrl +/-*, shift the center with *ctrl + arrow keys*.

If it doesn't respond to your command, try clicking on it once.

Try not to terminate this program by any other means than *quit* command, else the log file will be saved incorrectly.