

Figure 0.1: cursor edits.

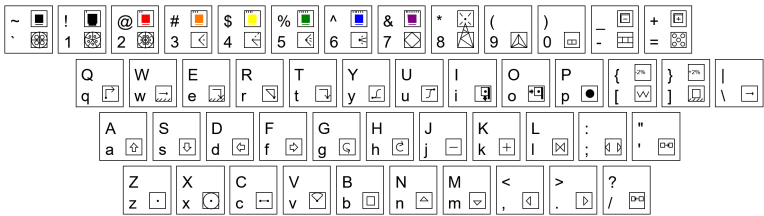


Figure 0.2: keyboard.

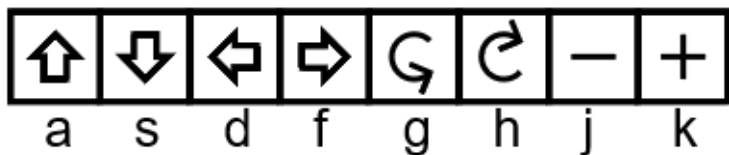


Figure 0.3: Movements. Arrows move along directions of the lines in the cursor. Rotation is by the unit indicated by the cursor wing angles. Scale actions are by the current scale value as shown by the dot positions on the cursor. Letters shown indicate the keys which map to these actions on a QWERTY keyboard with the default settings.

## 0.1 2d Web Symbols and Icons

### style

Each instance of the Geometron Virtual Machine has a style object, which defines 8 layers, numbered from 0 to 7. Each style has a line color, line width, and fill color. The properties of the style object are stored in the JSON file `data/currentjson.txt` which is used by the app `symbol.html` to edit graphics which are used by the rest

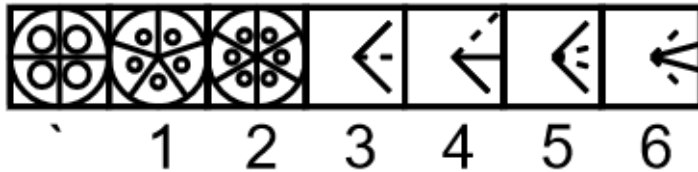


Figure 0.4: Angles described by symmetry glyphs. This also shows the actions to bisect, double, trisect and triple angles, and what keys are used to activate each geometric action.

of the Geometron system.

Colors are in the format of HTML/CSS/JavaScript, and can be either names of colors like “red” or RGB color values like “#00ff00”

- hello world vesica piscis
- symbols, how they work with hypercube,
- editing, cursor, keyboards, control panels, modes
- symmetries and scales, different methods of geometron(AG)
- cursor,movements, basic constructions(segment, circle, arc, dot)
- layers, colors, lines, style json, working with styles, transparency in hex colors, finding colors

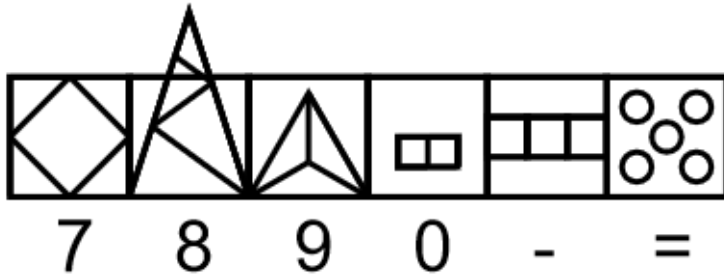


Figure 0.5: Scales, along with keys used to map to them in default configuration. There is no relation between the numbers on the keys and the mathematics of the scales. The scales shown are, from left to right, the square root of 2, the Golden Ratio, the square root of 3, 2, 3, and 5.

- bezier curves
- paths
- character stack
- fonts
- flags
- tracing symbols from images
- editing the hypercube and shape table, sharing them, import and export of hypercube, sharing of byte-code
- canvas,svg/png/base64 workflow, laser cut shapes production, practical graphics for manuscripts and

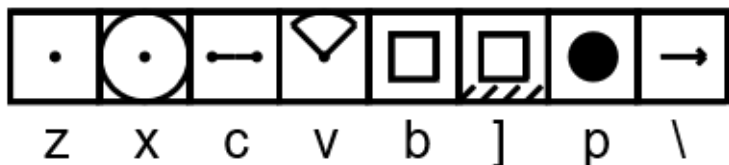


Figure 0.6: Basic drawing actions, along with keys used in default configuration to activate them. From left to right the actions are: draw dot, draw circle of unit radius, draw line segment of unit length, draw arc between cursor wings, draw a square, draw a filled square, draw a filled circle, and draw a line segment while moving forward one unit.

web, iconsymbols, usage in jupyter notebooks, how the JSON embeds in the SVG, how the symbol feed works, how the setup of JSON works,

- control panels, softkey interfaces, writing geometron apps, how to replicate in other systems from scratch
- examples of using the GVM in JS, documentation of geometron.js, how to use just as a js library to build whatever you want, a list of things someone needs to build to make all this a lot better, how to do that

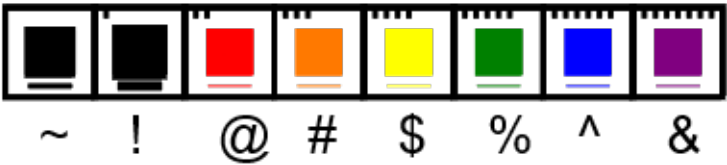


Figure 0.7: Layers. Each layer has a line color, line width, and fill color, all of which are set with the Style object using the Style editor app.

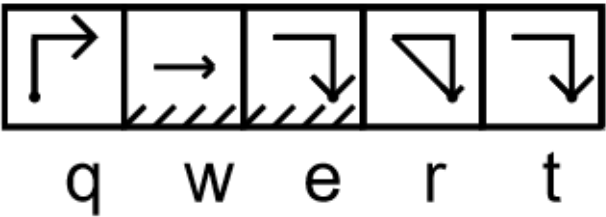


Figure 0.8: Path actions, with keys used to activate them in default state. From left to right, actions are: start path, draw line segment in path, close a filled path, close an unfilled path, and terminate a path without closing it.

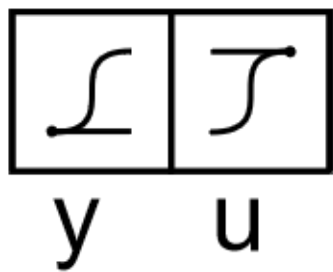


Figure 0.9: Start a Bezier Path and terminate it with the y and u keys.

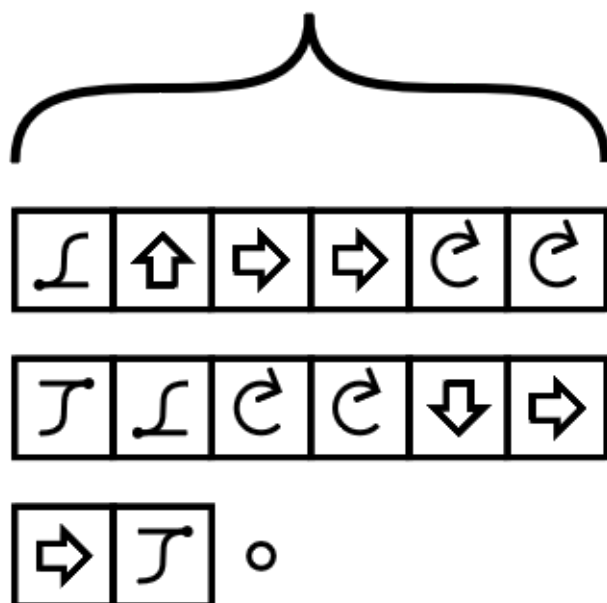


Figure 0.10: Demonstrating the power of Geometron to make useful symbols with Bezier paths quickly and easily: a twiddle bracket.



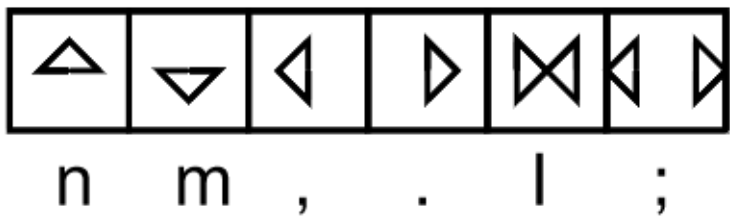


Figure 0.11: Pan and zoom the field of view.

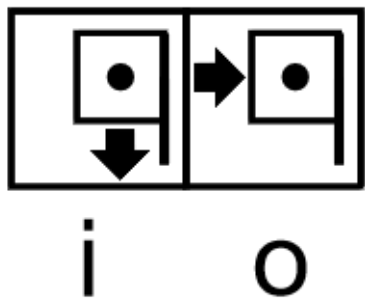


Figure 0.12: Drop a flag, return to flag.

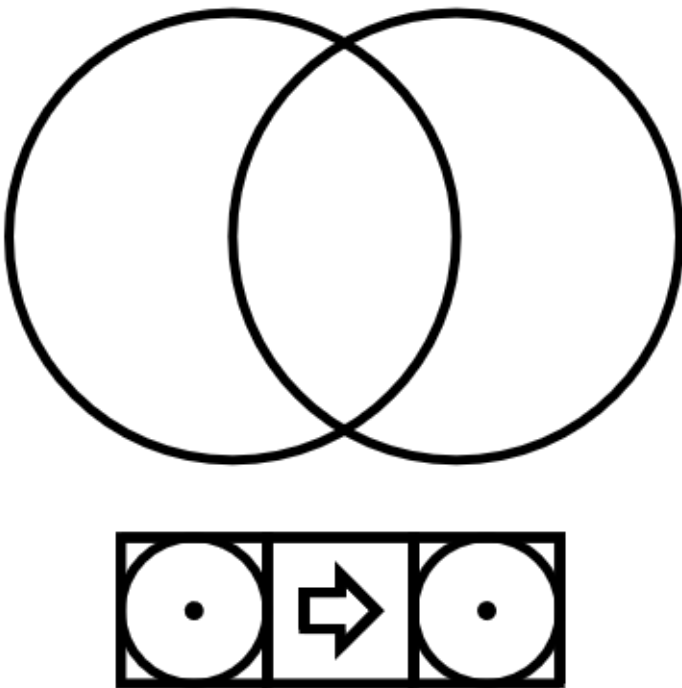


Figure 0.13: The “hello world” of geometric programming, the Vesica Piscis.

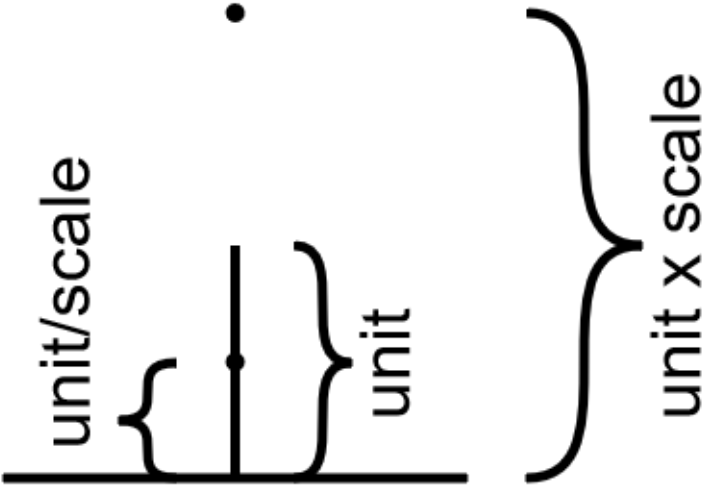


Figure 0.14: Cursor scale.

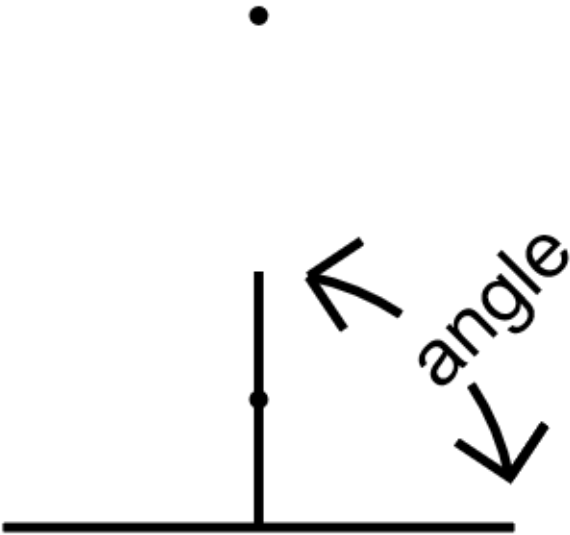


Figure 0.15: Cursor angle.

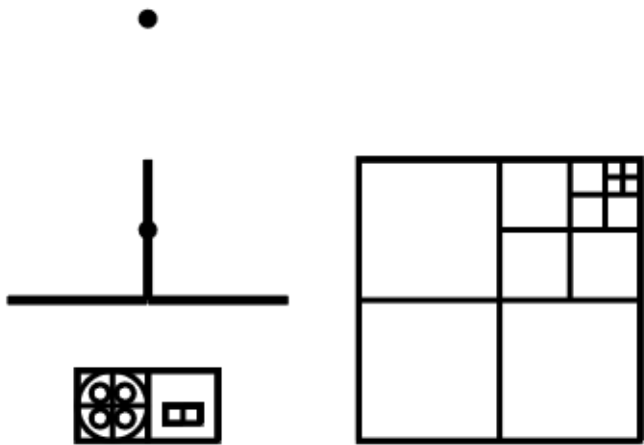


Figure 0.16: Cursor square.

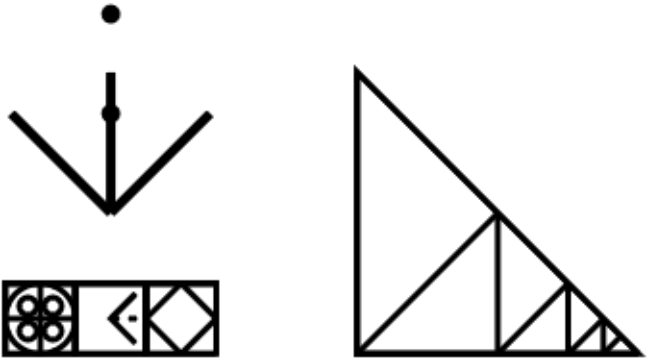


Figure 0.17: Cursor root2.

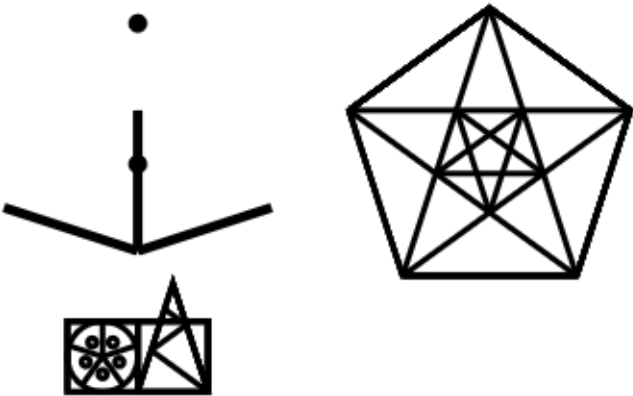


Figure 0.18: Cursor golden ratio.

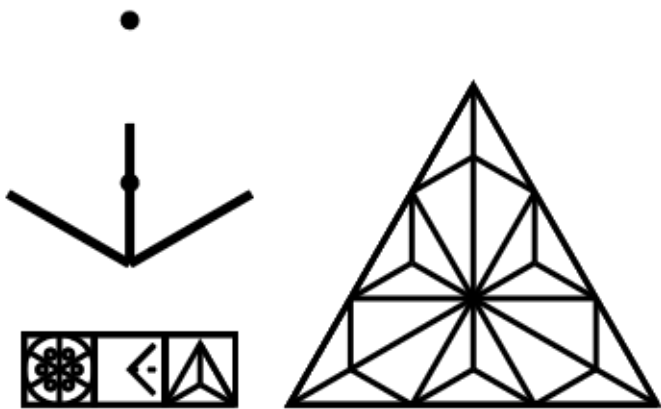


Figure 0.19: Cursor root 3.



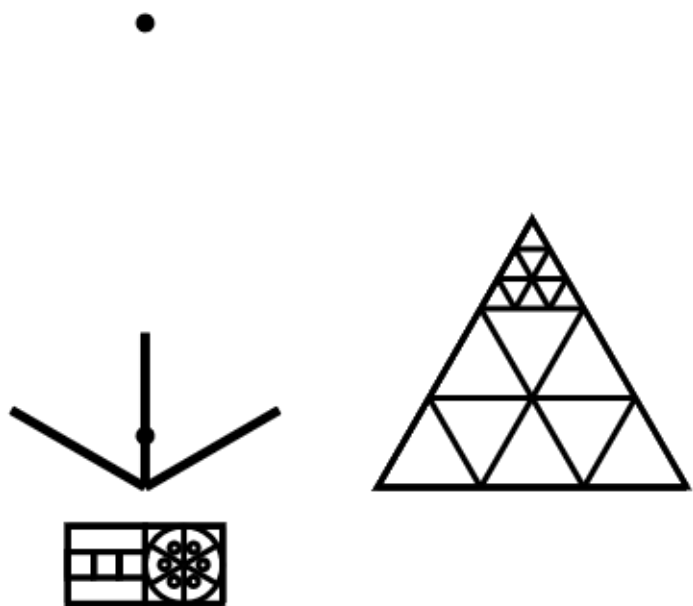


Figure 0.20: Cursor 3.

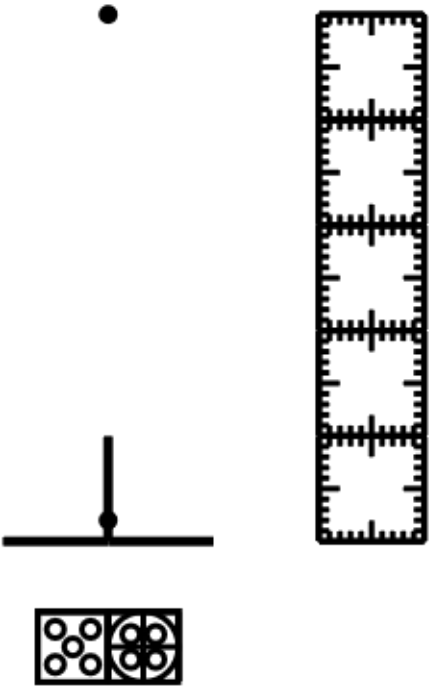


Figure 0.21: Cursor 5.

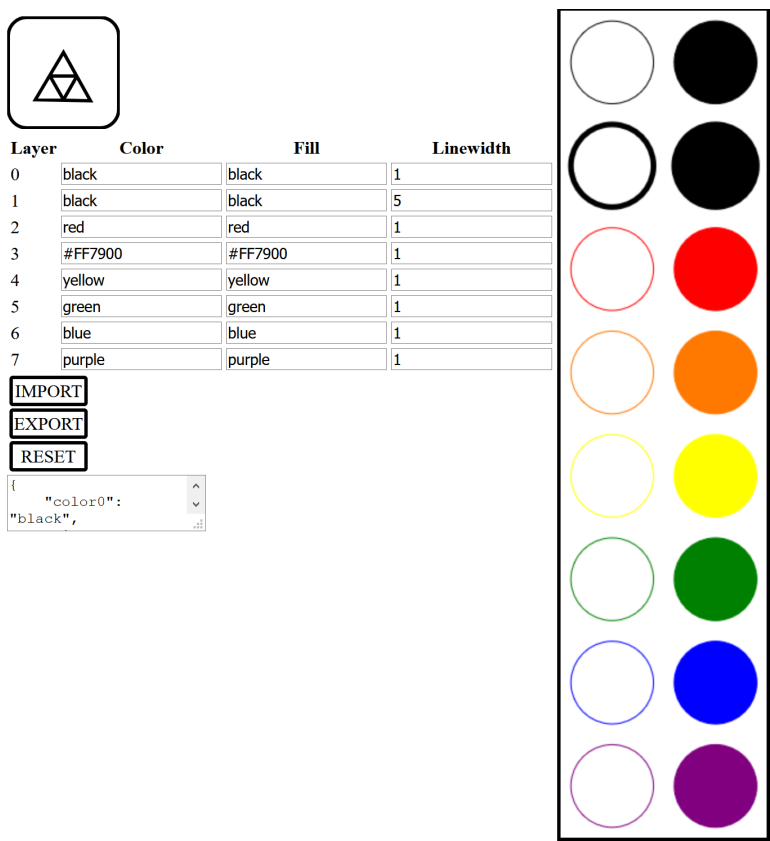


Figure 0.22: Screen shot of the style editor app at [styleeditor.html](http://styleeditor.html). The display on the right hand side of the screen shows an unfilled circle and filled circle of each layer's style. The text area in the bottom left of the screen is used to import and export style data, which can be saved offline and shared with other users via text message, email, etc. The RESET button resets the style to a standard setting, which will erase any changes made to the existing style. Enter new values into any field to immediately change it.