Title: A Program for an Interactive Table.

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Background/Introduction:

For this lab, I designed an interactive table with a set of instructions. There are two types of table, a 2-dimensional and a 3-dimensional table. The user can move the two dimensional table around by clicking, holding and dragging their mouse around the screen. The user also has the option to view the legs, the top or the whole 3D table depending on which key they press on their computer keyboard. The “t” key displays the top of the table. The “l” key displays the legs of the table, and the “w” key displays the entire table. The purpose of this program is to design an interactive object using the Processing language.

Methods:

- The setup method determines the size of the window and sets the outline of the primitive shapes to black
- Draw will create a black background, an instructions screen, the moveable 2D table, and interactive the 3D table.
- The instructions screen has different colored text made using color(r,g,b)
- The 2D table is made of three rectangles (rect()) - two legs and a top
- CORNERS mode is used for rect()
- The 2D table is displayed using an if statement that activates if the mouse is pressed
- The 2D table’s position depends on the position of the mouse eg. rect(mouseX, mouseY, mouseX+20, mouseY+100)
- The 3D table creates the illusion of the 3D table using rect() and quad()
- quad() creates a quadrilateral based on 4 coordinate points eg. quad(x1,y1,x2,y2,x3,y3,x4,y4)
- CORNERS mode is used for rect()
- The 3D table is made up of a front right leg rect(), a front right leg right side quad(), a front left leg rect(), a front left leg right side quad(), a back right leg rect(), a back right leg right side quad(), a back left leg rect(), a back left leg right side(), a table top quad(), a table front rect() and a table right edge quad()

- The different pieces of the table are on different places of the grey scale in order to mimic lighting. This is achieved using fill()
- There are several if statements that activate when either the w, l or t keys have been pressed, each will draw either a part of or a whole 3D table

Results: My program creates a 2D table, a 3D table and an instructions page from predefined objects in the Processing library. The 2D table consists of three parts, the two front legs and the table top and it can be moved when the user holds down the mouse. The 3D table consists of a front right leg, a front right leg right side, a front left leg, a front left leg right side, a back right leg, a back right leg right side, a back left leg, a back left leg right side, a table top, a table front, and a table right edge. The user can determine whether they want to see either parts of or the whole table using keyboard entry. In Figure 1 I should that the 2D table is moveable.

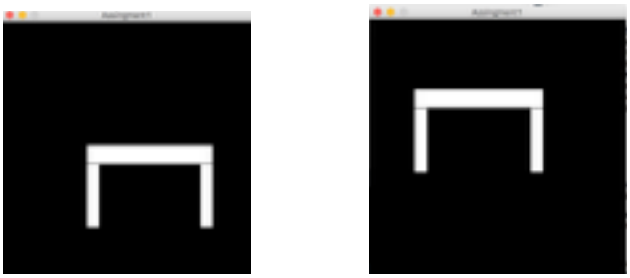

Figure 1: As you can see, the table has moved locations. This is because the mouse was pressed and the table followed the mouse.

Conclusion: My program welcomes the user with a set of instructions and contains a moveable 2D table and an interactive 3D table. In the future I will create table objects to simplify my code.

Credit/Acknowledgements: I used resources and code examples from the Processing tutorial on Interactivity as well as the Processing reference for the quad() object

Citations:

Interactivity, Processing Tutorial, Daniel Shiffman. https://processing.org/tutorials/interactivity/

quad(), Processing Reference. https://processing.org/reference/quad_.html