C.T

. Decomposition

create a grid of hearts on a canvas, with random colors (red or purple) and sizes.

Parts of the Code:

Setting Up the Canvas: make the canvas, set the background color, and define heart properties like size and spacing.

Drawing a Grid of Hearts: using a grid layout to repeat the hearts across the canvas.

Randomizing Hearts: adding random changes to color and size to keep the hearts interesting and varied.

Making the Heart Shape: We have a custom function to draw a heart shape.

. Pattern Recognition

Repeating Elements:

Grid Structure: Hearts are arranged in a grid, which means they follow a repeating pattern across rows and columns.

Color Variation: Some hearts are red, and some are purple, creating a scattered color effect

Size Variation: Some hearts are slightly smaller, creating a mixed-size pattern across the canvas

. Abstraction

Simplifying the Code:

Heart Shape Function: I have a function just for drawing the heart shape (drawHeart), so I don’t have to repeat the shape instructions for every heart.

Grid Layout Function: Another function (drawGrid) takes care of the layout, placing the hearts in the right spots without needing to repeat the layout instructions.

Using Variables: Properties like color, size, and spacing are set as variables so we can change them easily without going through the whole code.

. Algorithm Design

Steps the Code Follows:

Setting Up:

Create the canvas and set the background color

Define heart properties like size, color, and stroke weight.

Drawing the Hearts:

Start by setting the coordinates for where the grid begins.

Loop through rows and columns to draw each heart.

For each heart, randomly pick its color and size

Use the drawHeart function to actually draw each heart

Adding Keyboard Controls:

We add a shortcut for redrawing the hearts with the 'r' key

Code includes ;

Randomness

Tiling

Scaling (the stroke in the shapes randomly changes)

Repetition

I think layering (?)