Question 1:

Template Selection:

I've chosen to extend the draw-app template for its robust framework in developing interactive drawing functionalities. This template serves as an ideal starting point to explore various visual techniques, crucial for enhancing skills and potentially participating in competitions like the Apple drawing app challenge.

Extensions Planned:

1. **Advanced Brush Options**:
    - Implementing multiple brush types (e.g., pen, pencil, brush) with adjustable sizes and colors.
    - Using arrays of objects to manage brush properties and dynamically updating settings based on user inputs.
2. **Export and Import**:
    - Adding functionality to export drawings in various formats (e.g., PNG, SVG) and import images for editing.
    - Managing file handling, data serialization, and potentially integrating with external libraries for format-specific operations.
3. **Selective Eraser**:
    - Allowing users to erase parts of the drawing selectively instead of clearing the entire canvas.
    - Implementing interactive eraser tools and managing canvas state effectively.
4. **Stamp Drawing**:
    - Introducing a library of predefined images (stamps) that users can place on the canvas.
    - Optionally supporting user-uploaded images as stamps, if feasible.
5. **Shapes Drawing**:
    - Adding support for drawing basic geometric shapes like circles, rectangles, and squares.
    - Integrating shape drawing tools seamlessly with existing functionalities.

Complex Coding Techniques:

- **Arrays of Objects**: Used for managing brush types, stamp collections, and shape properties.
- **Event Handling**: Critical for user interactions such as brush adjustments, stamp placement, and shape drawing.
- **Canvas Manipulation**: Ensuring efficient rendering and managing canvas states for undo/redo and selective erasing.
- **File Handling and Serialization**: Critical for exporting drawings in different formats and importing images. This involves integrating JavaScript's file APIs, managing data

serialization (e.g., converting canvas content to exportable formats like PNG or SVG), and potentially utilizing external libraries for format-specific operations.

Improvement:

I plan to enhance the HTML and CSS code within the application by implementing more structured HTML elements such as <header>, <main>, and <footer>. Additionally, I aim to ensure the application is responsive, making it compatible across various devices. As currently the app menu has scroll on width while you are using small devices. For CSS I am planning to add more animations too.