SKETCH AND GUESS: CHALLENGE

REVIEW OF CLOUDDB TAGS

To make this app more fun, you start the challenge by adding **PaintColor** and **LineWidth** as part of the **DrawingData** to be stored on **CloudDB**.

Review the table below for the tags that are used in this app.

Tags	Meaning	Sketcher	Guesser
	The start point and end point for drawing.	Store the coordinates of drawing	Get the coordinates of drawing
	Who is the Sketcher	Stores their userID.	Gets the sketcher's userID.
	The drawing option for drawing	Store the random generated drawing option.	Get the CurrentDrawing for answer checking.

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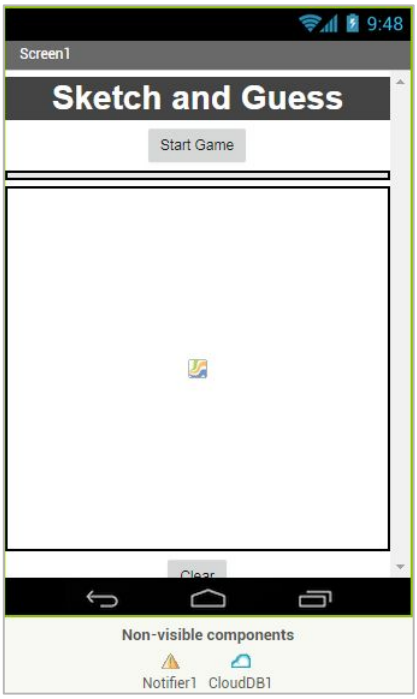
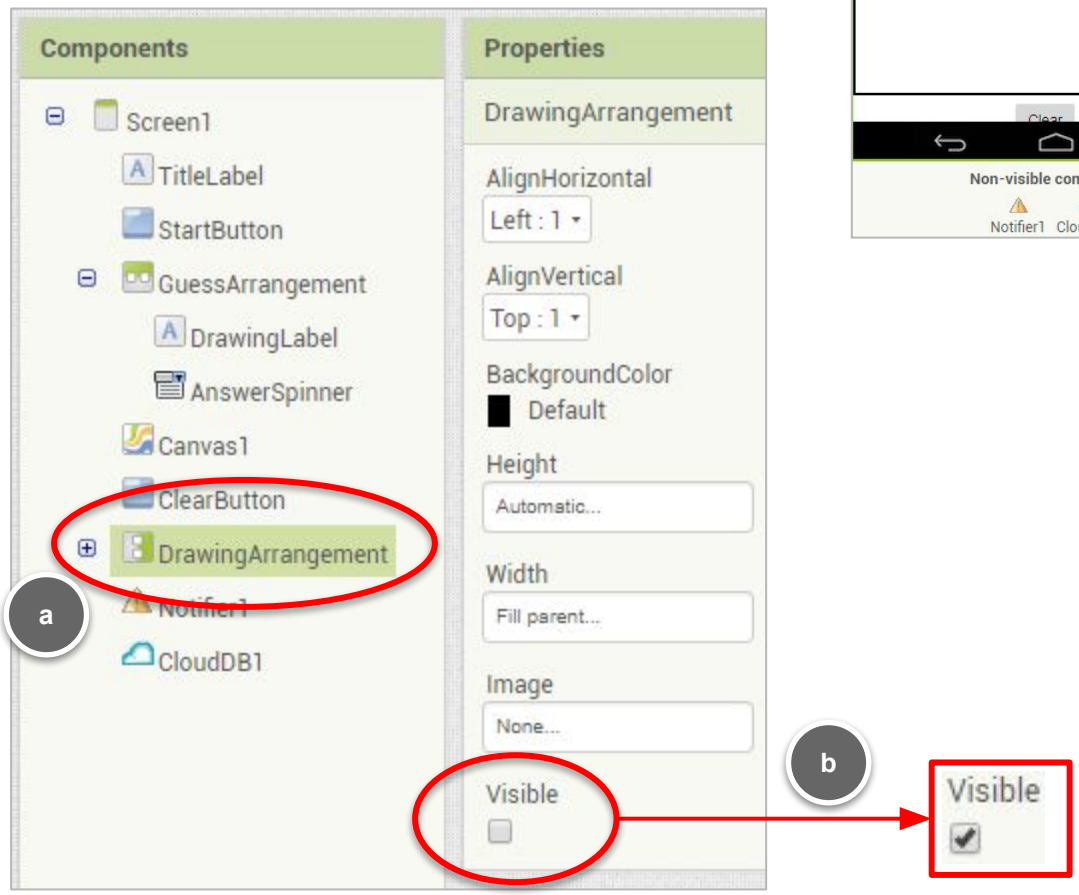
CHANGE VISIBILITY IN DESIGNER

1. Open your project from Part 4 and switch to the Designer view.



2. Click on **DrawingArrangement** in the Components list and click on the **Visible** checkbox so it is checked.



You won't see anything change in the Designer, because the **DrawingArrangement** is at the bottom, and off the screen.

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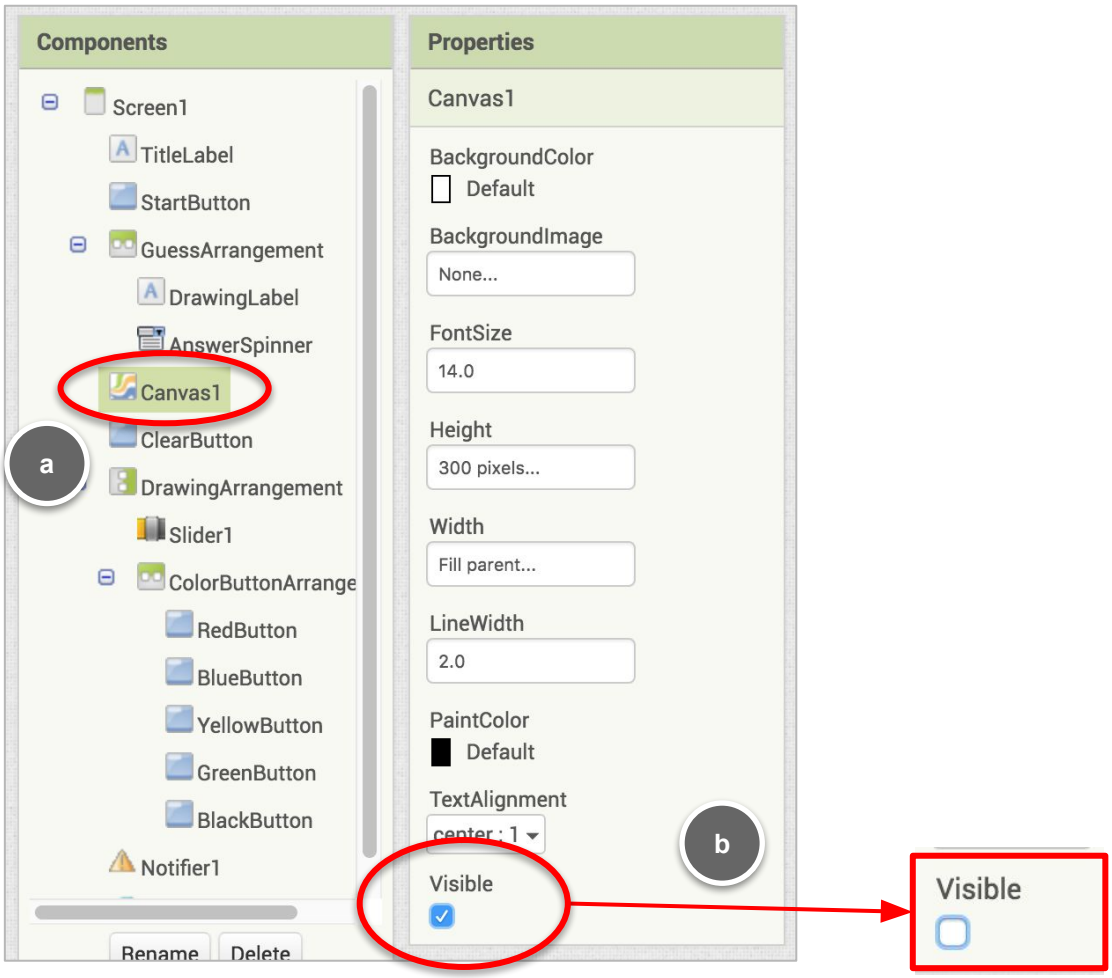
SEE CHANGES IN DESIGNER VIEW

To see the **DrawingArrangement**, you can make the **Canvas** invisible temporarily.

3 Click on **Canvas1** and uncheck the **Visible** checkbox.



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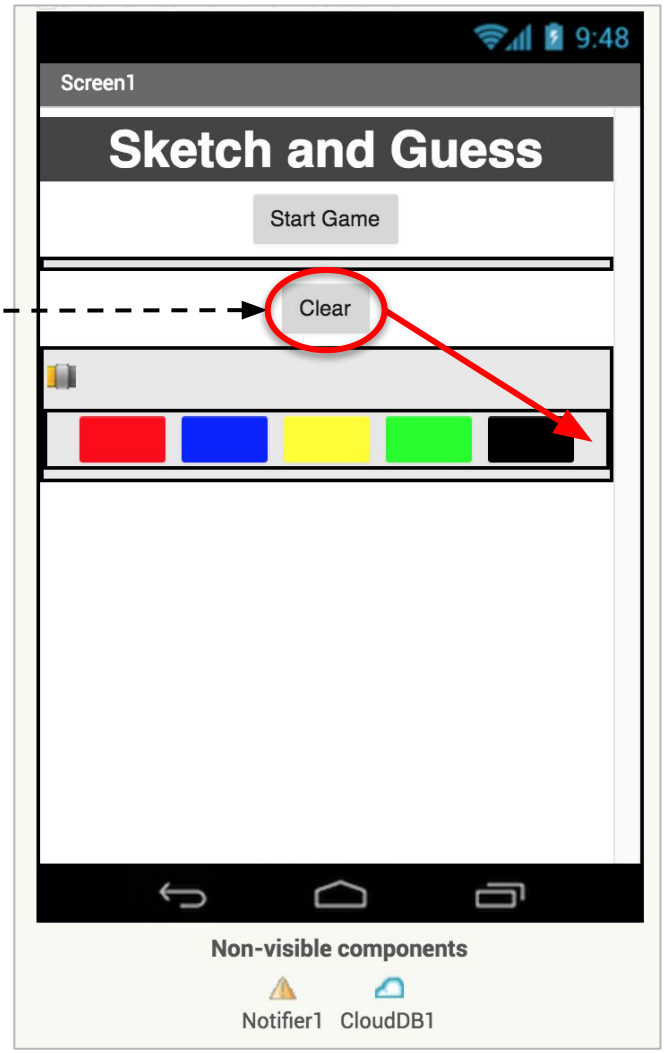
REARRANGE BUTTONS

Now **DrawingArrangement**, including a slider and 5 color buttons, appears. The buttons are red, blue, yellow, green, and black. These components will enable the Sketcher to change the line width and colors in the drawing.

4 Drag the **ClearButton** into the **DrawingArrangement** next to the color buttons.



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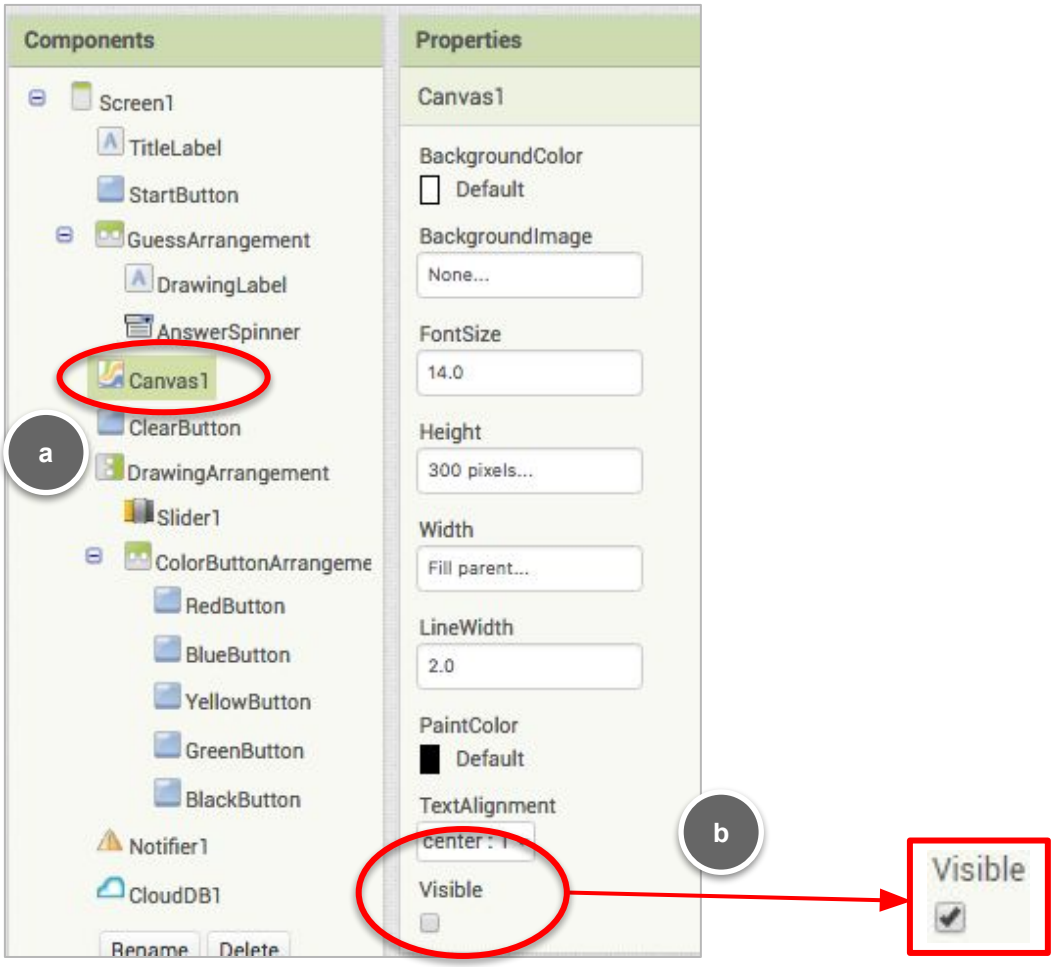
MAKE CANVAS VISIBLE AGAIN

Make the **Canvas** visible again now that you have set up **DrawingArrangement**.

5 Click on **Canvas1** and check the **Visible** checkbox.



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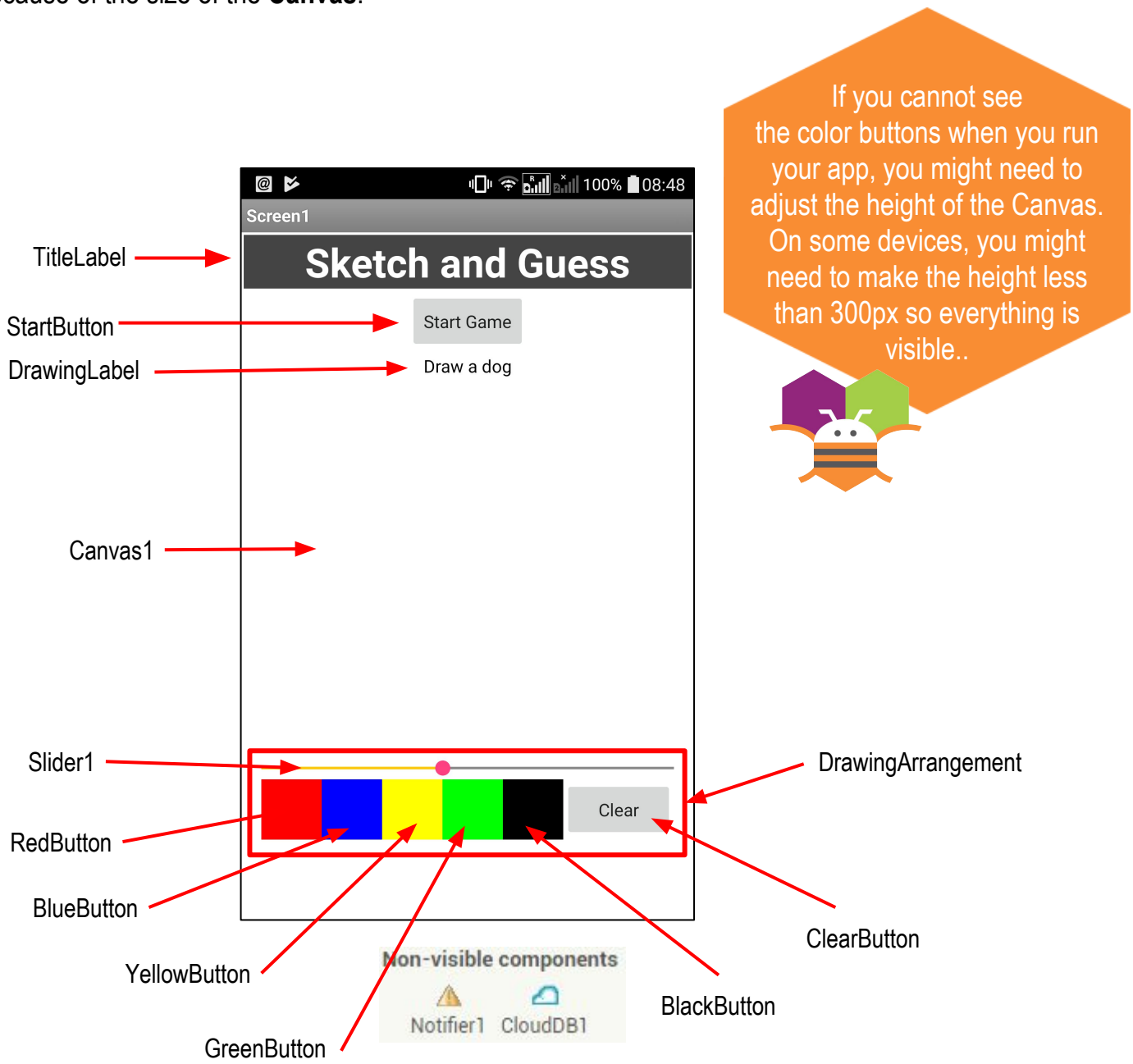
FINAL DESIGNER VIEW

Here is what the final Designer View should look like. You may not see the **DrawingArrangement** because of the size of the **Canvas**.



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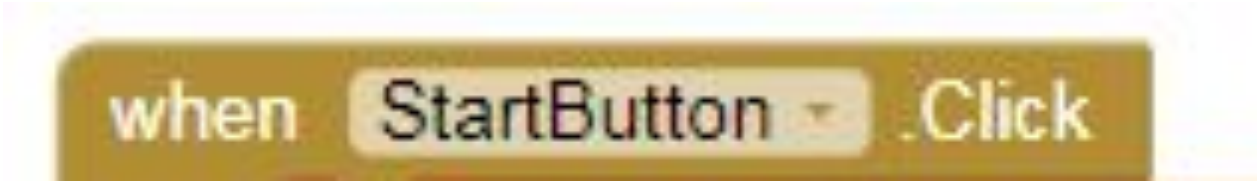
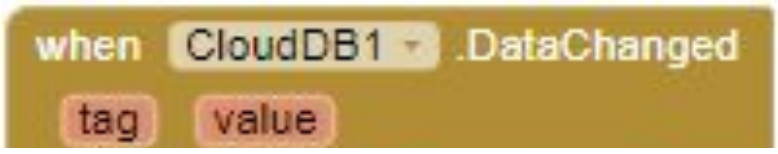
CHANGE COMPONENT VISIBILITY

1. When the user clicks on the **Start** button, they become the Sketcher. To enable the Sketcher to change paint colors and line width, the **DrawingArrangement** must be visible.

2. Likewise, when the other players get an update about the currentDrawer in CloudDB.DataChanged, they need to hide the DrawingArrangement, since they won't be drawing.

   Use the blocks below.





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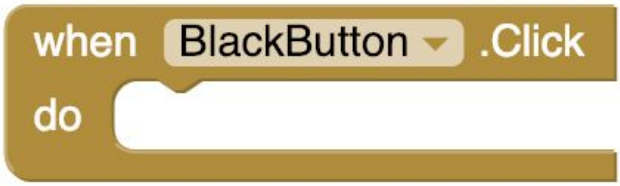
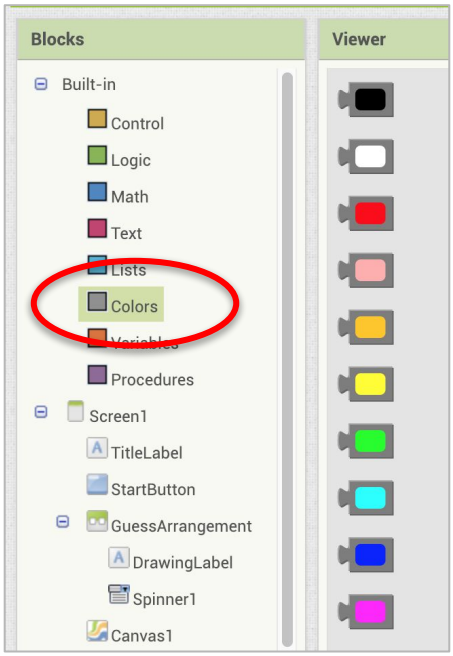
COLOR BUTTONS

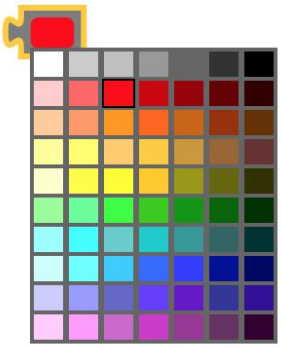
3 When the Sketcher clicks on any of the color buttons, you need to set the **Canvas1.PaintColor** to that color.

Use the blocks below.

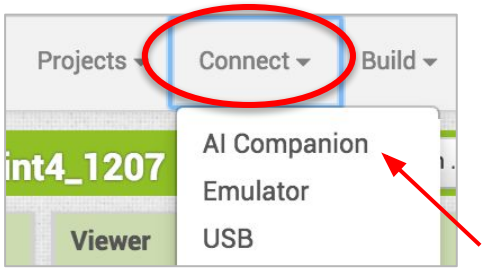




You can select your colors from the Colors palette. If you click on a color block, you get a full palette of colors to choose from



4 Test it out with MIT AI2 Companion. Try changing the color and see if your drawing colors change! - - - - →



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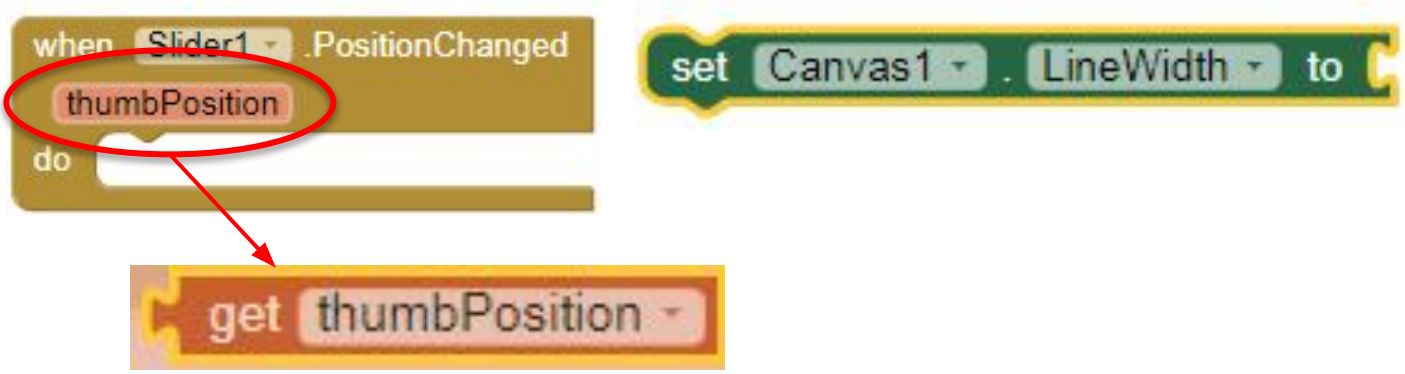
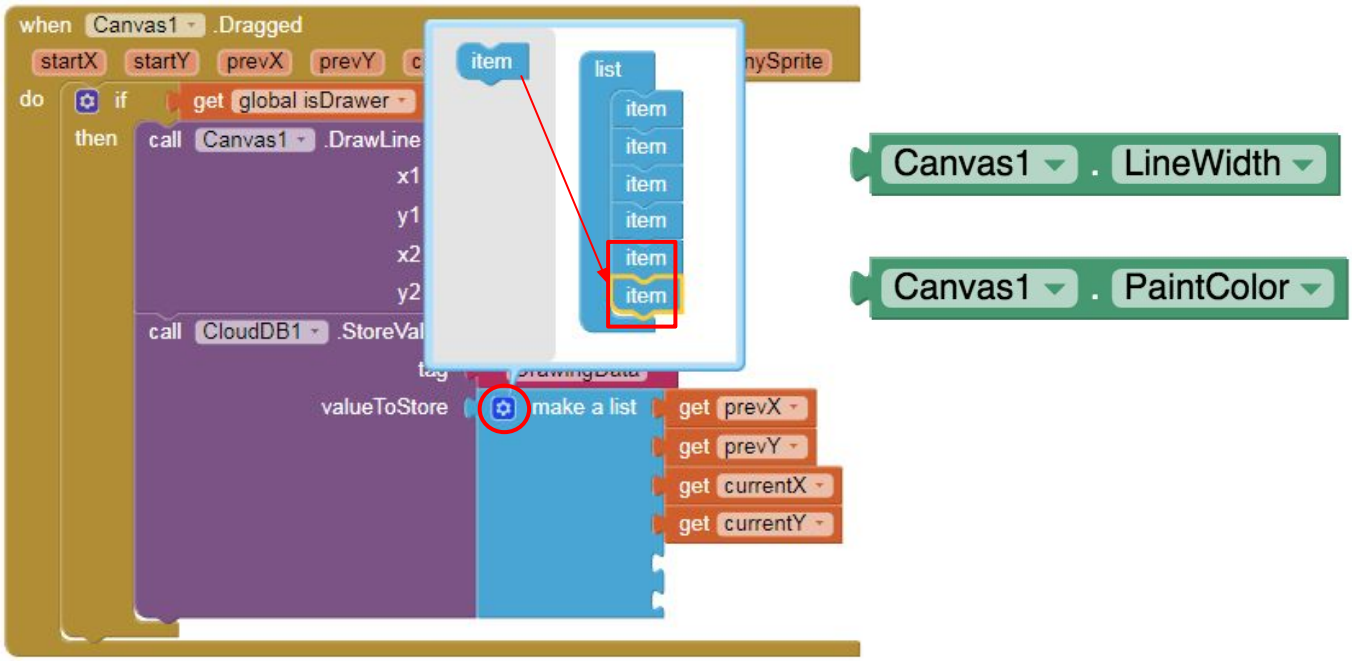
SLIDER TO CHANGE LINE WIDTH

5 Add code so when the Sketcher moves the slider to the left, the line drawn will be thinner, and when the slider is moved to the right, the line will be thicker.



SAVE THE PAINT COLOR AND LINE WIDTH PROPERTIES TO CLOUDDB

6 Update **Canvas1.Dragged** by adding two more slots to the list store in **CloudDB** to store the **LineWidth** and **PaintColor** of the **Canvas**.



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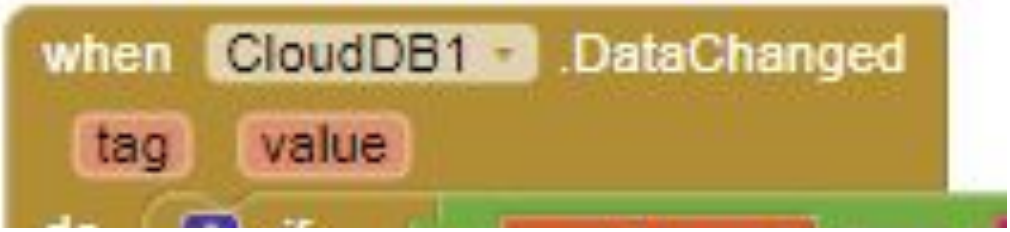
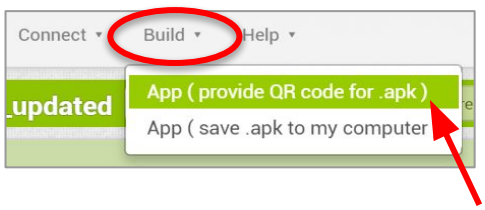
GET THE PAINT COLOR AND LINE WIDTH PROPERTIES FROM CLOUDDB

7 Update CloudDB1.DataChanged so extract the LineWidth and PaintColor stored in the list. Set the properties for the Canvas before drawing the line. Use the blocks below.



8 Test with your partner. Build the apk using the QR code option, scan the QR code and download and install the apk on your individual devices.



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COMPUTATIONAL THINKING CONCEPTS

The following are the Computational Thinking Concepts learnt in this lesson.

L3U6.2 & 6.3 / L3U10.2 & 10.3 Sketch And Guess
1. Manipulation of data and elementary data structures 

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