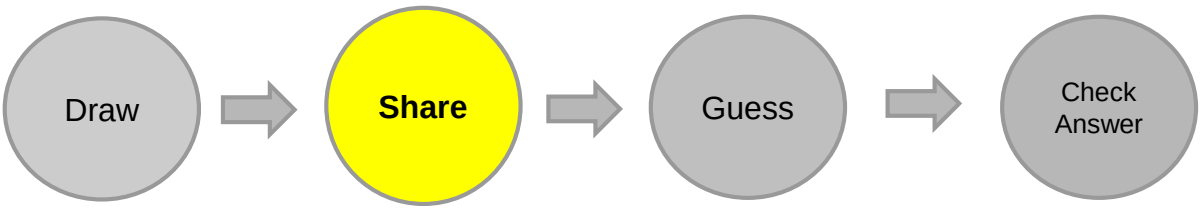
# SKETCH AND GUESS

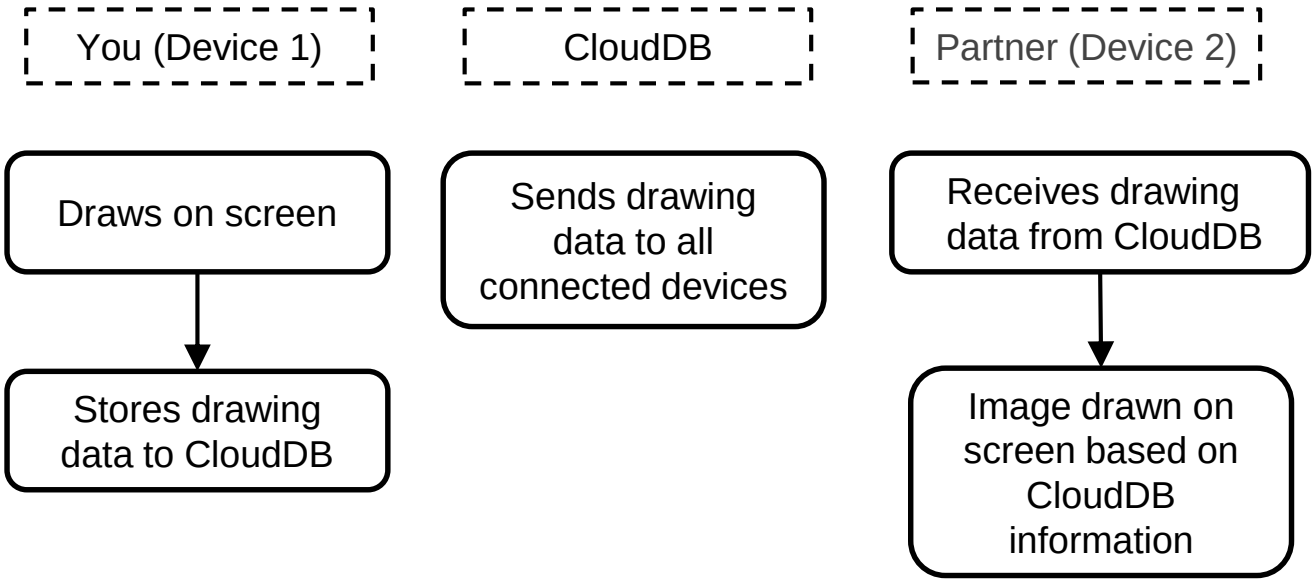
In this lesson, you will code the Guesser's part of the drawing, so that anything the Sketcher draws is displayed on the Guesser's screen too.




## START HERE

In this lesson, you will use the CloudDB component to communicate between devices.

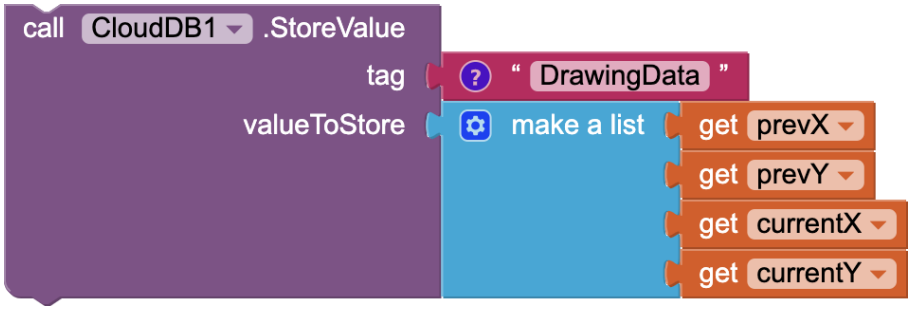
❑ Review with your partner the diagrams below. Fill in the empty spaces with A, B, or C .



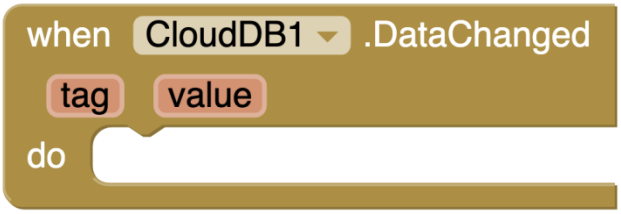
# SKETCH AND GUESS

## USING CLOUDDB TO DRAW

To share data with other device users, we need to use the CloudDB component. Remember in Lesson 3, the Sketcher stored the drawing data using the **CloudDB1.StoreValue** block.




CloudDB automatically updates all devices running the app with updated information. The Guesser has to receive that information and use it to draw the line on their device. In this lesson, you will use the **when CloudDB.DataChanged** block to show the drawing on the GuesserScreen.




The same tag "DrawingData" will be used in this lesson as we are sharing the same data between the users' devices.

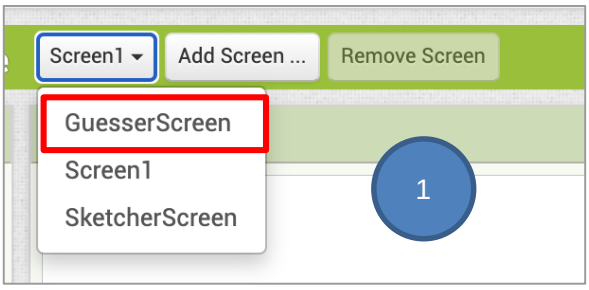
| Tags | Meaning | Sketcher (You) | Guesser (Partner) |
|---|---|---|---|
| " DrawingData " | The start point and end point for drawing | Store the coordinates of the drawing | Get the coordinates of the drawing |

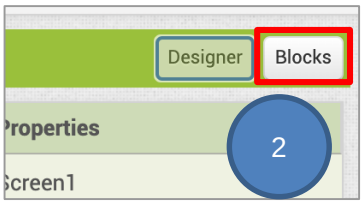
# SKETCH AND GUESS

## GET THE COORDINATES FROM CLOUDDB

❑ Open your project developed in Lesson 3. If you have not finished Part 3, please ask your teacher for help.

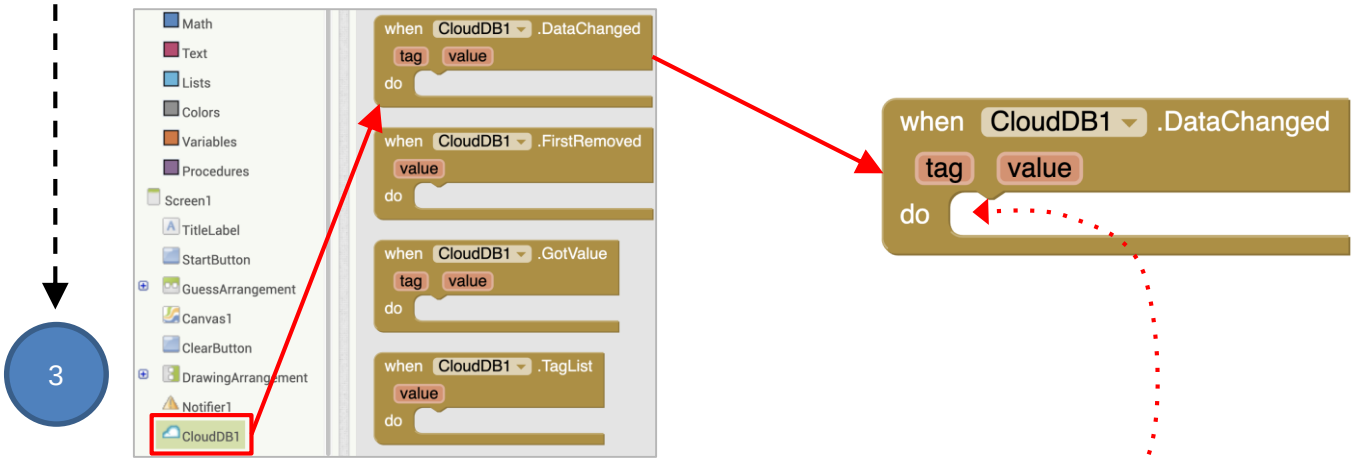
❑ Switch to the GuesserScreen and make sure you are in the Blocks Editor.



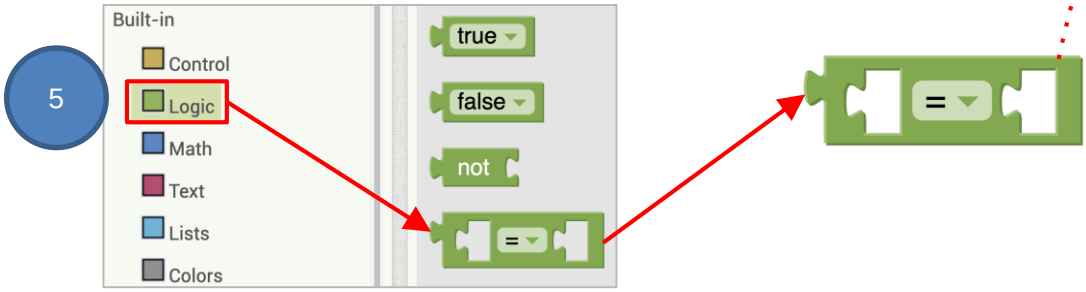




❑ When your partner draws a line, it is saved on the CloudDB server using the **CloudDB.StoreValue** block. To detect the changes, the **CloudDB1.DataChanged** block is used.

❑ Pull out the **CloudDB1.DataChanged** block from the **CloudDB1** drawer.



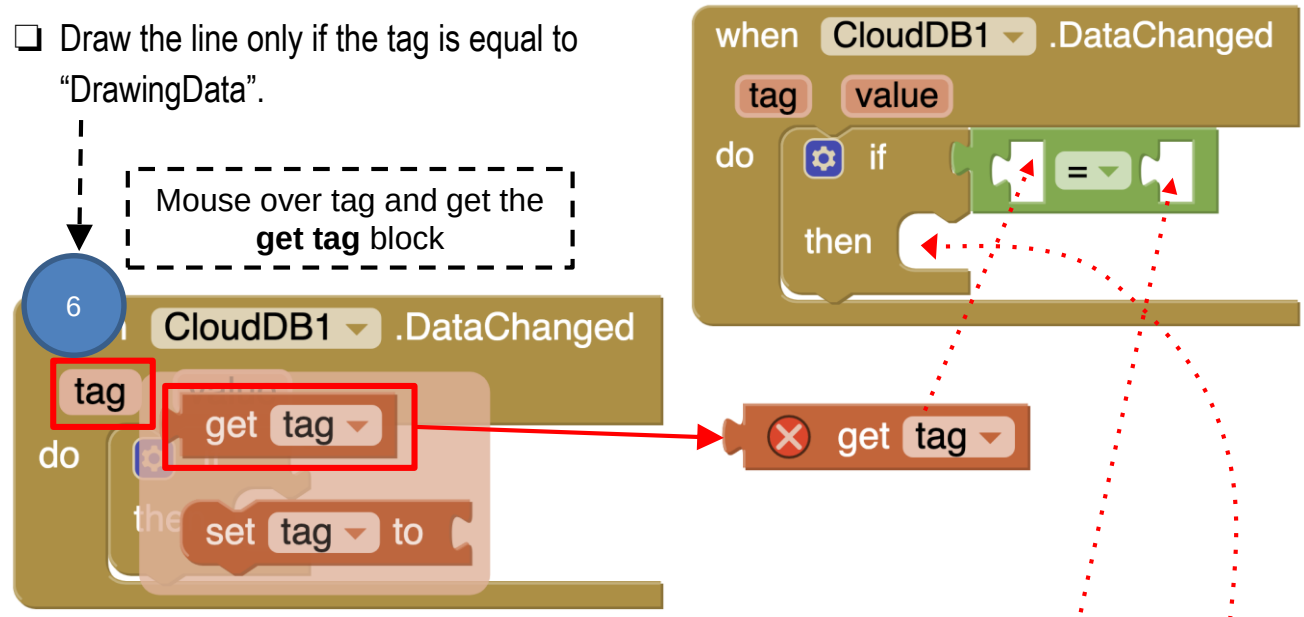

❑ Since many tags can be saved to CloudDB, we need to check and make sure we've got the right tag, "DrawingData".

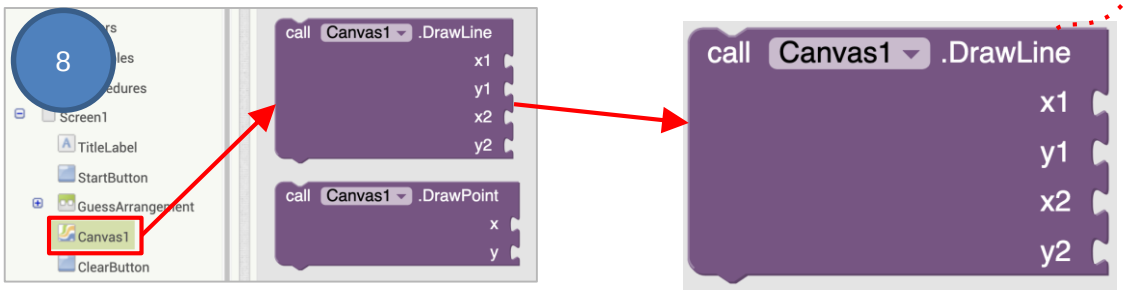
# SKETCH AND GUESS

## CHECK THE CORRECT TAG FOR DRAWING LINES

❑ Draw the line only if the tag is equal to "DrawingData".




❑ Look in the Blocks Viewer window for the supplied code blocks. Find the code block "DrawingData", right-click on it and duplicate the block.

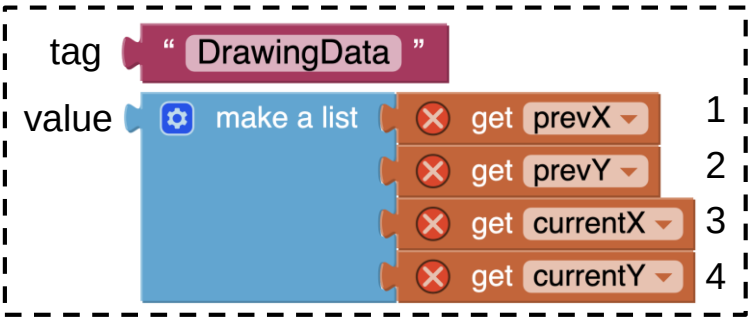




❑ Do you remember how to get an item from a list?

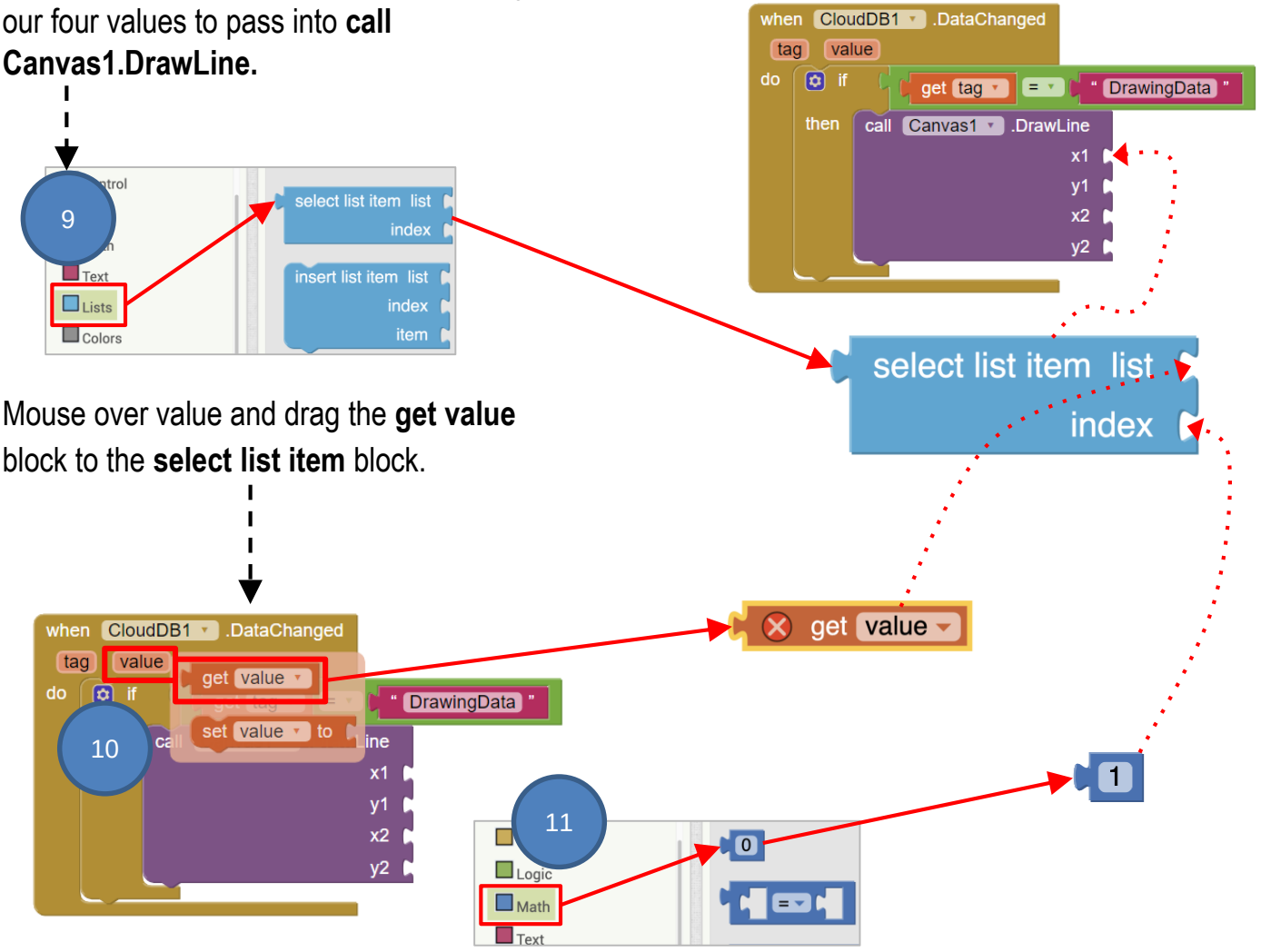
# SKETCH AND GUESS

## GET THE DRAWING DATA FROM CLOUDDB

The name of the tag is “DrawingData”, while the value of that tag is the saved list.




❑ We need to select each item in the list to get our four values to pass into **call Canvas1.DrawLine.**

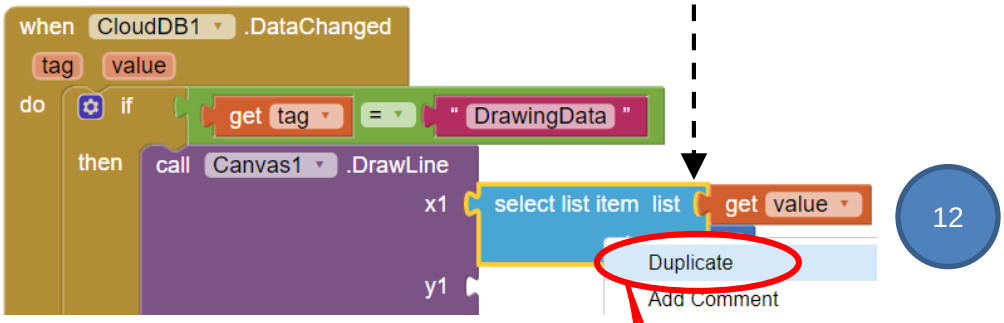



❑ Mouse over value and drag the **get value** block to the **select list item** block.

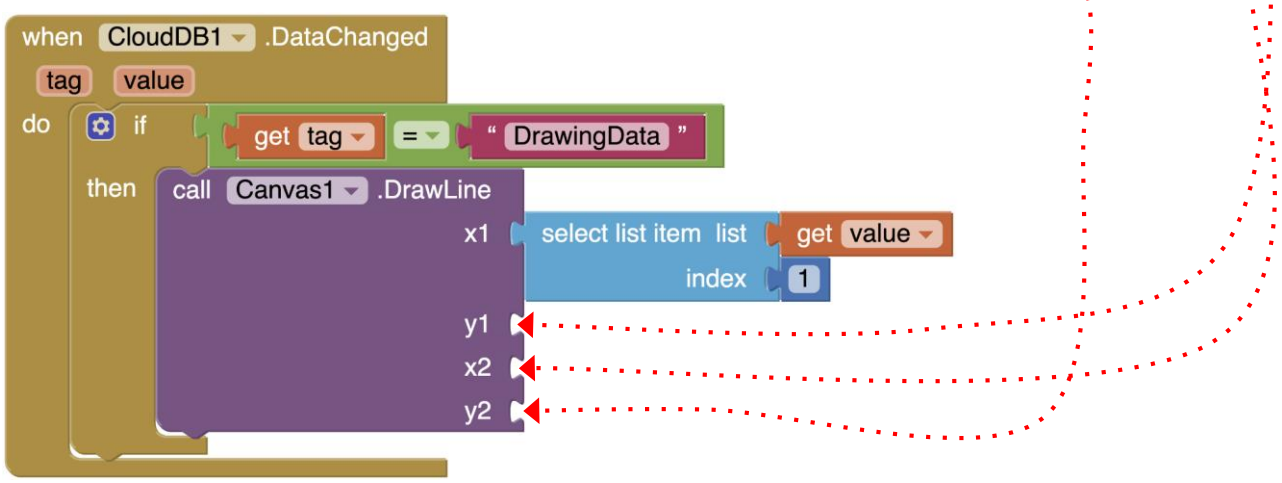
# SKETCH AND GUESS

## GET THE DRAWING DATA FROM CLOUDDB (CONT'D)

❑ Duplicate the **select list item** block.



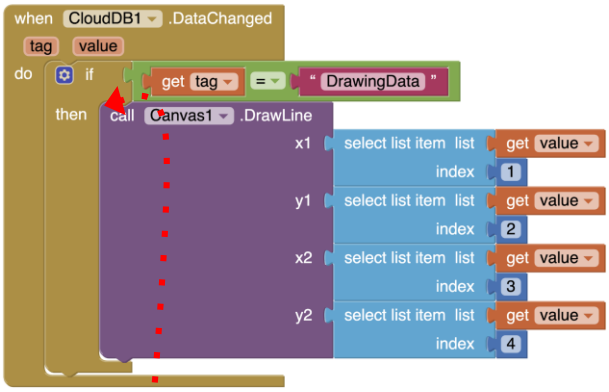

❑ Repeat for the other two items and snap them into the **y1**, **x2**, and **y2** slots in **call Canvas1.DrawLine**.
Remember to change the index as shown.



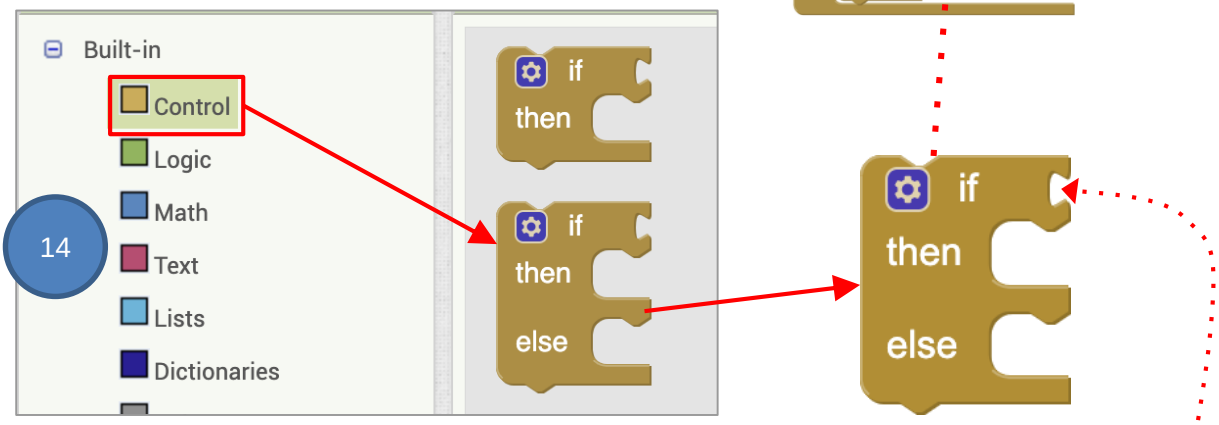
# SKETCH AND GUESS

## CLEAR THE CANVAS

In the **when CloudDB1.DataChanged** block, you want to check whether "DrawingData" is an empty list. If that is the case, then you know that is the signal to clear the canvas.



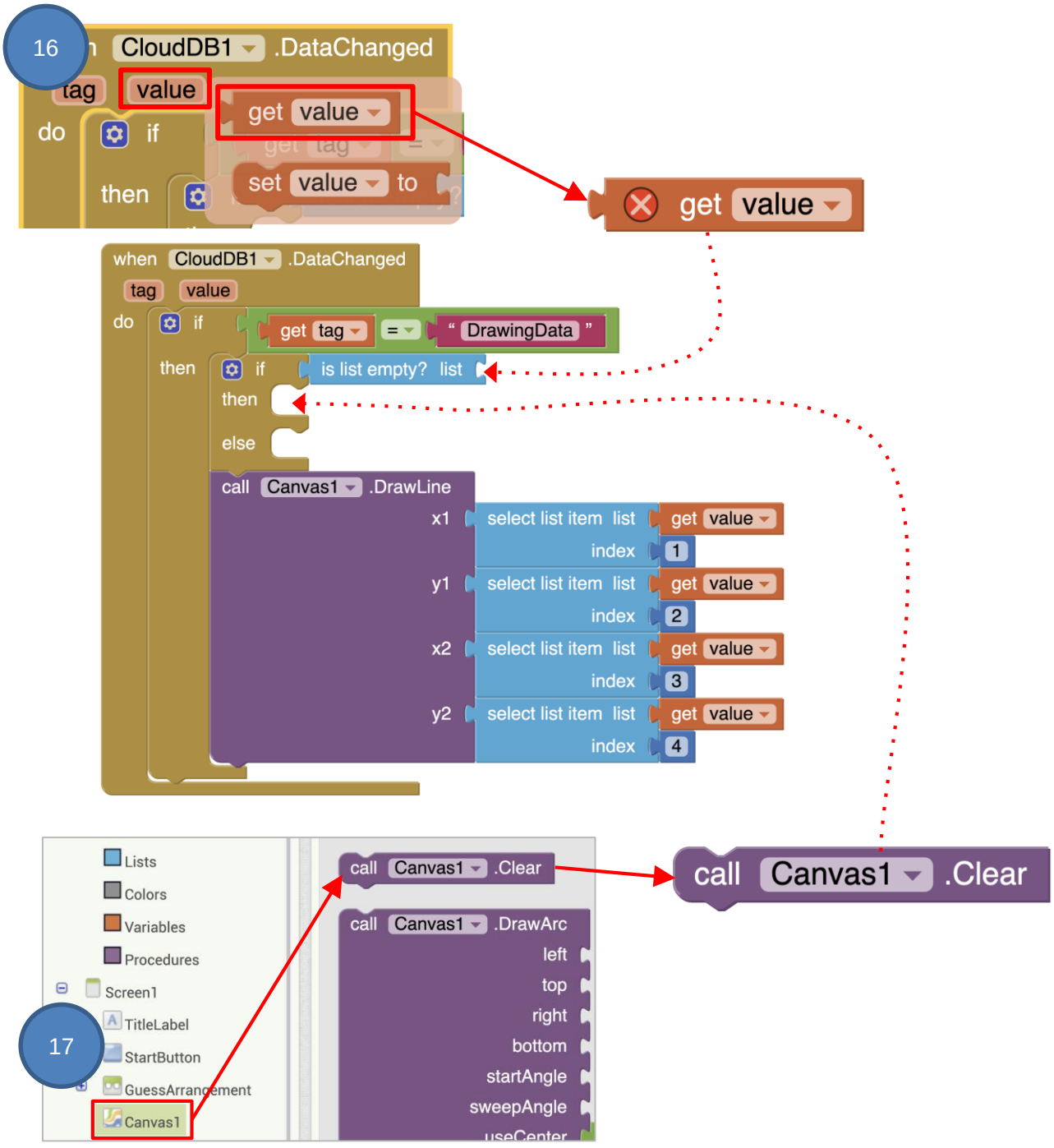

❑ Drag out an **if-then-else** block.




# SKETCH AND GUESS

## CLEAR THE CANVAS (CONT'D)

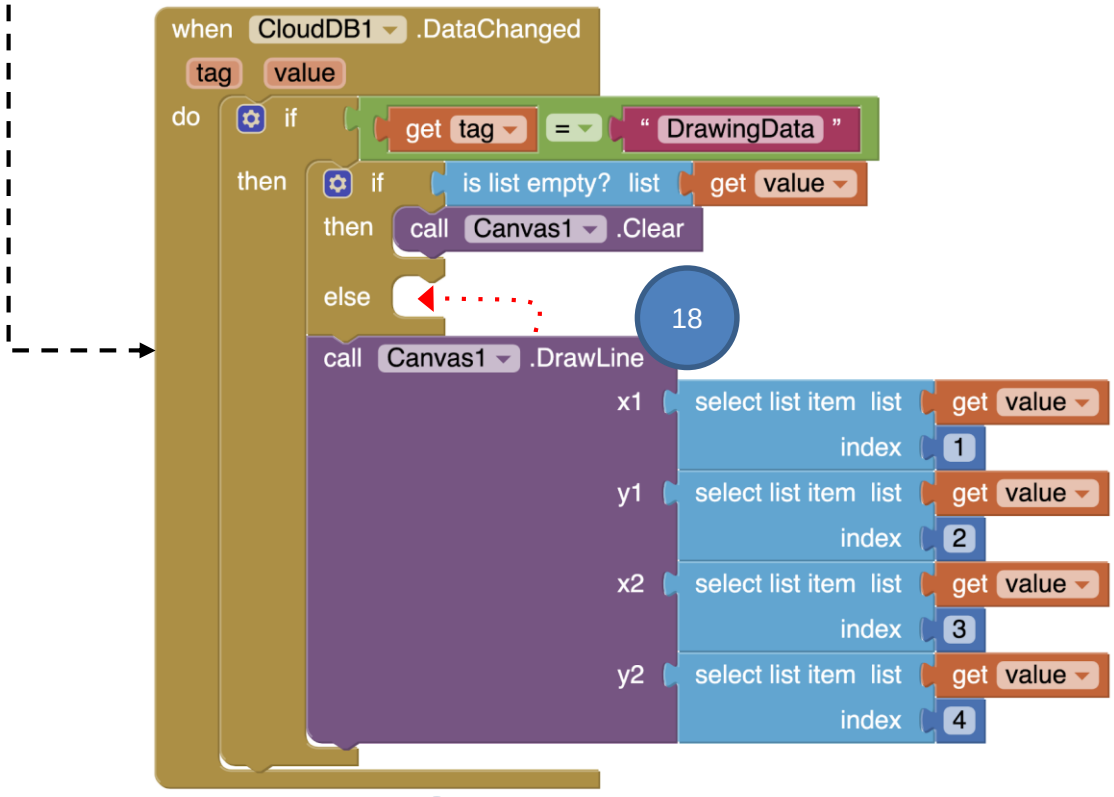
❑ You need to check if value is an empty list. If it is empty, clear the Canvas.



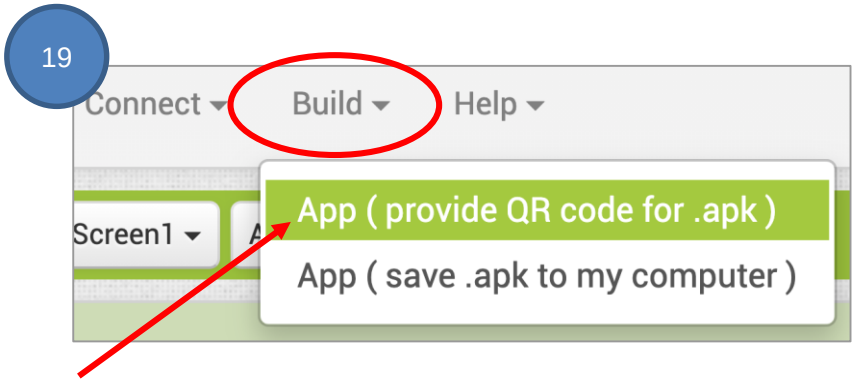
# SKETCH AND GUESS

## CLEAR THE CANVAS (CONT'D)

❑ Lastly, move the **call Canvas1.DrawLine** block into the else part of the **if-then-else** block.




❑ 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. Can one person draw and the other see it being drawn on their device?




Between you and your partner, decide who will draw and who will guess. Press the "I want to draw" or "I want to guess" button, depending on which role you choose.

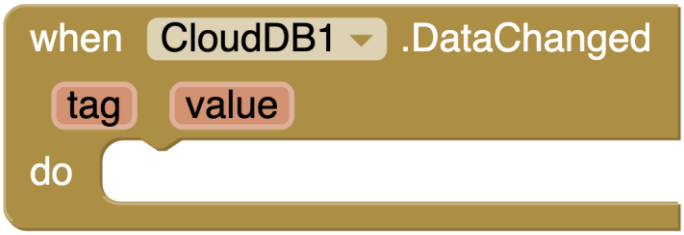
# SKETCH AND GUESS

## COMPUTATIONAL THINKING CONCEPTS

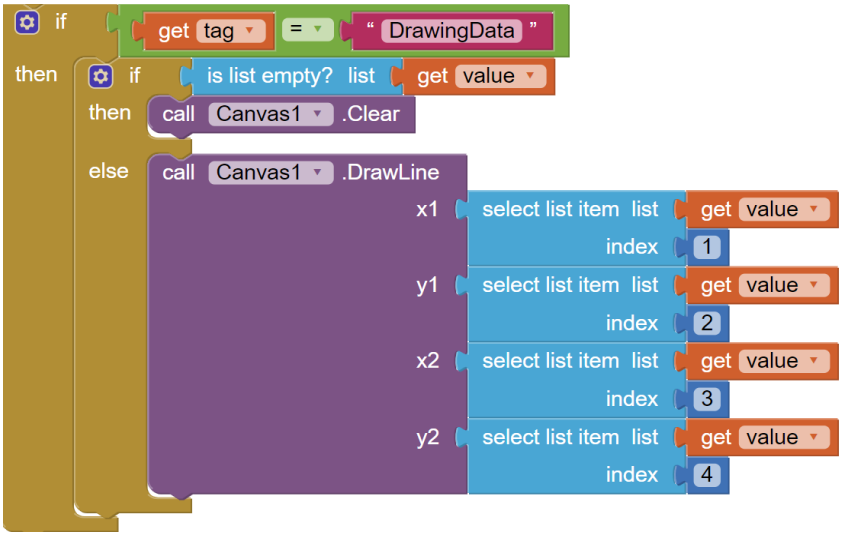
The following are the computational thinking concepts learnt in Lesson 4.

### L3U8.6-8.8 Sketch And Guess

#### 1. Events




#### 2. Conditionals




#### 3. Naming and Variables

# SKETCH AND GUESS

## COMPUTATIONAL THINKING CONCEPTS

The following are the computational thinking concepts learnt in Lesson 4.

| L3U8.6-8.8 Sketch And Guess |
| --- |
| 4. Data Structures |