TWO-BUTTON GAME

START HERE

- ❑ Open the TwoButtonGame_template project. 1
- ❑ With your partner, look at the user interface components that are included in the template. This should look familiar. This is similar to the Two-button Game you made in Level 2! Try to figure out what all the components do.

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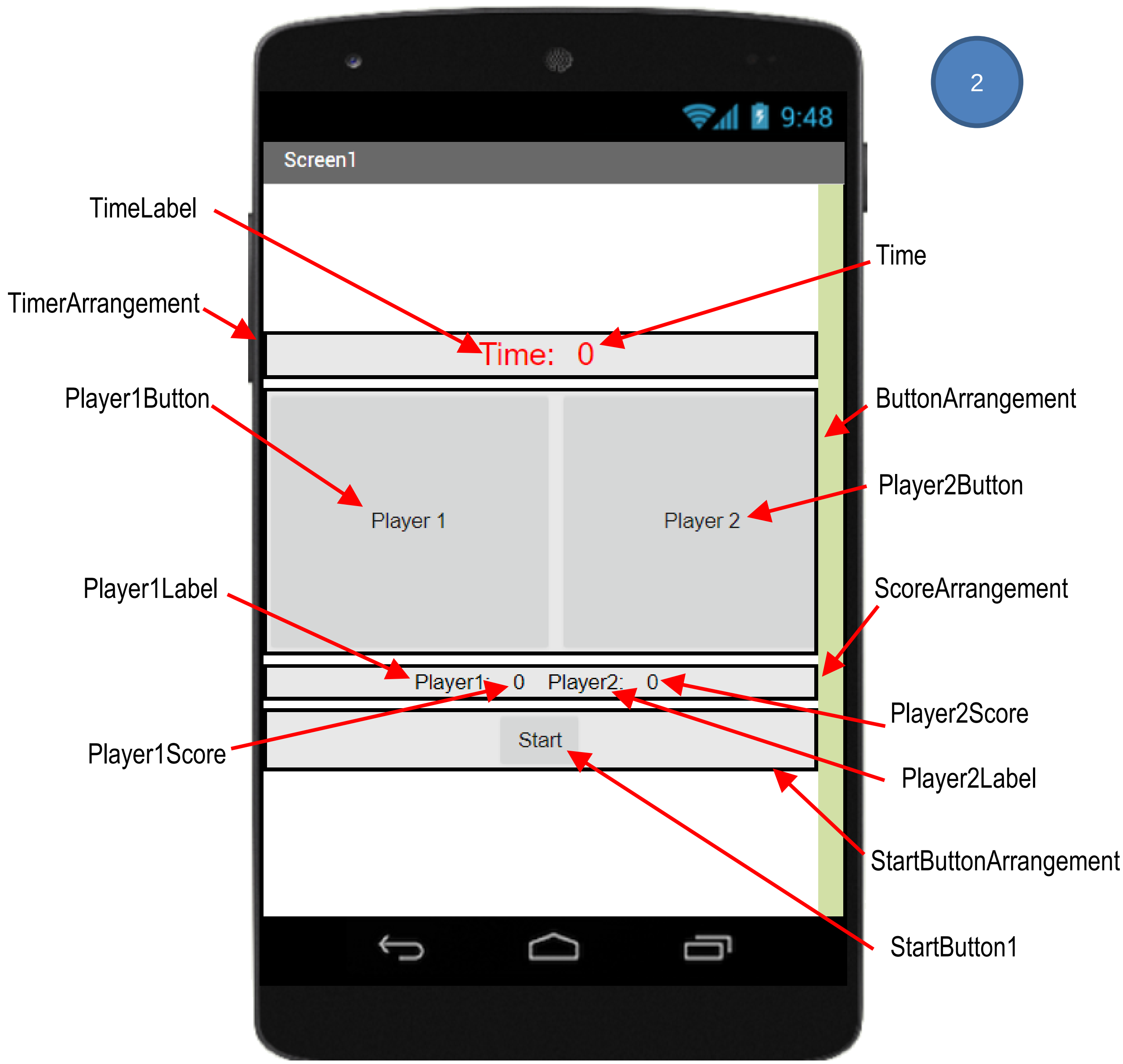

BLOCKS

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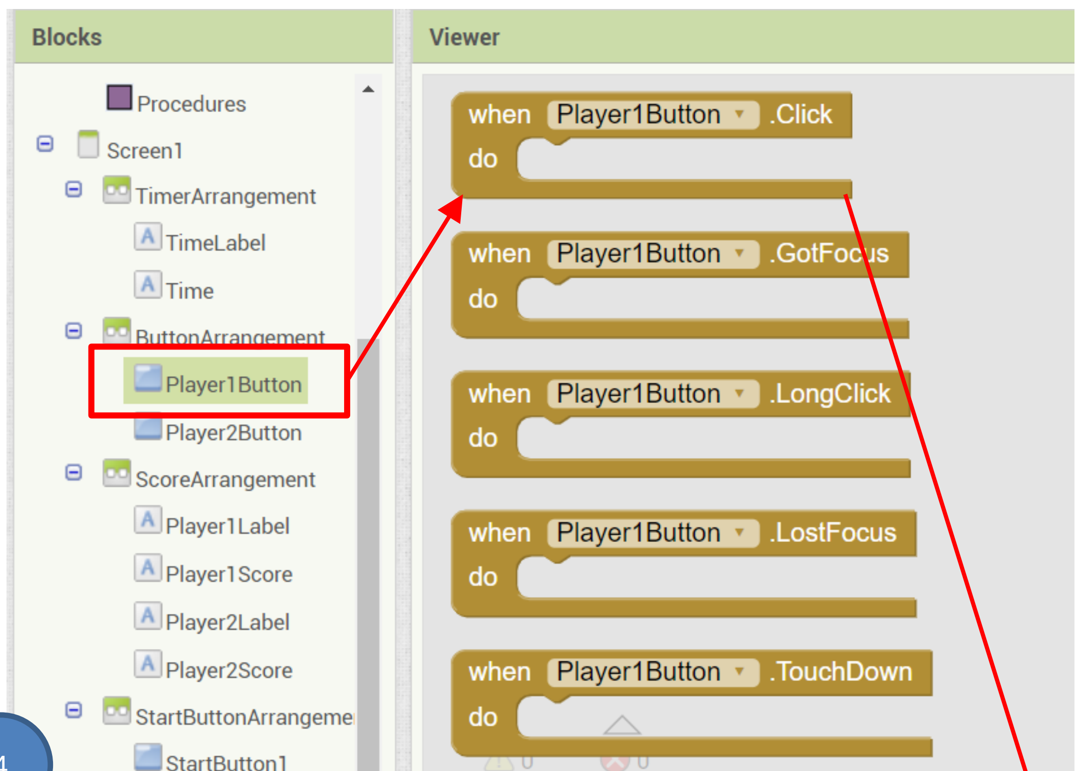
- ❑ Switch to the Blocks Editor from the Designer.

Clicking the "Player 1" button should increase Player 1's score by 1.

- ❑ From the Blocks menu, pull out a Player1Button.Click event block.



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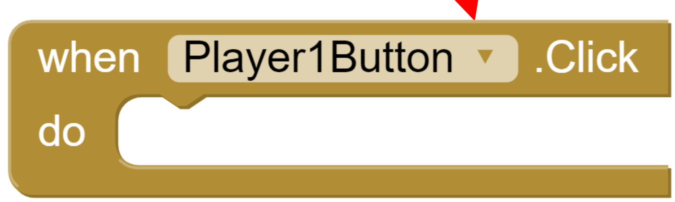
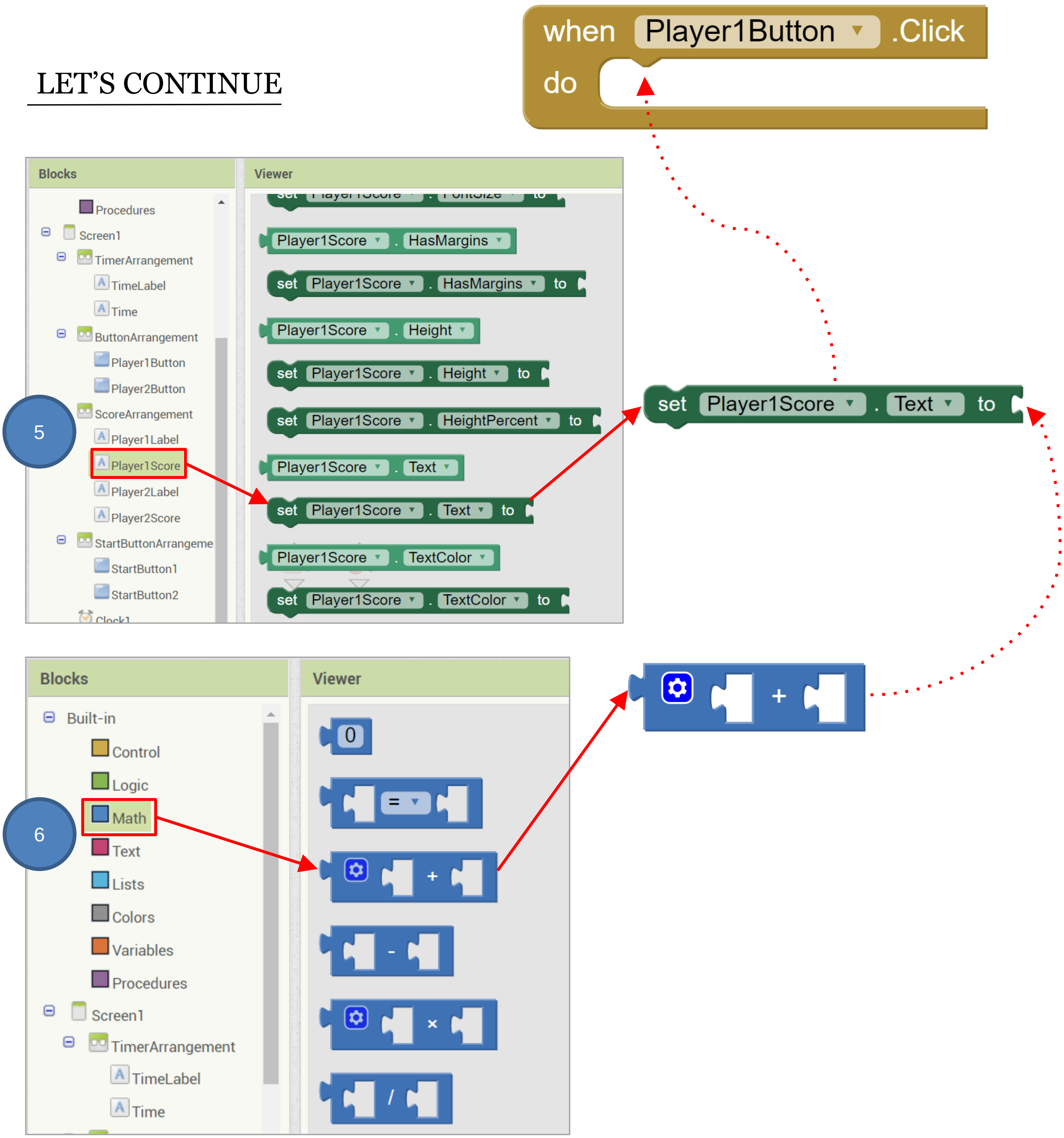


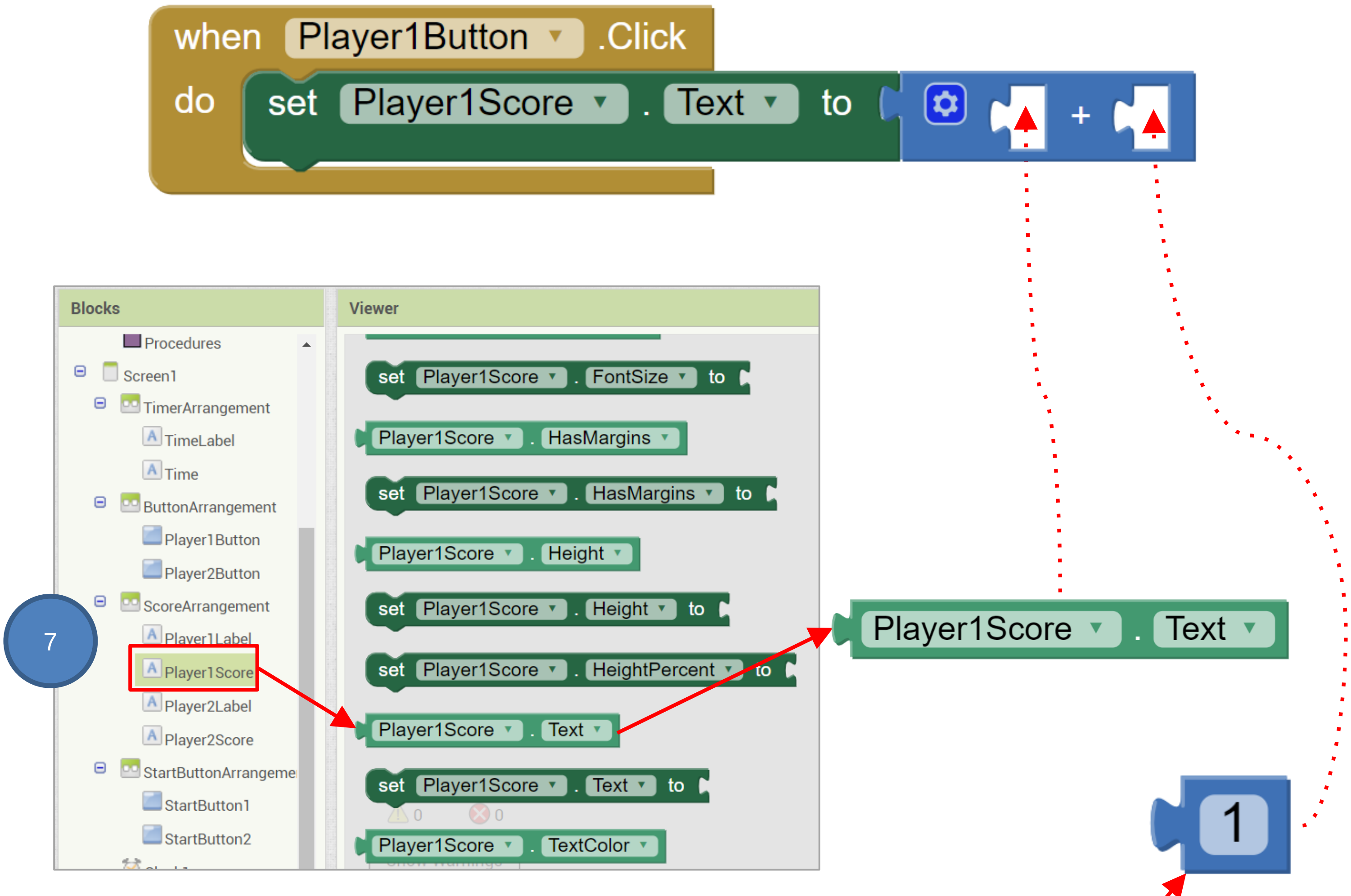
TWO-BUTTON GAME

LET'S CONTINUE

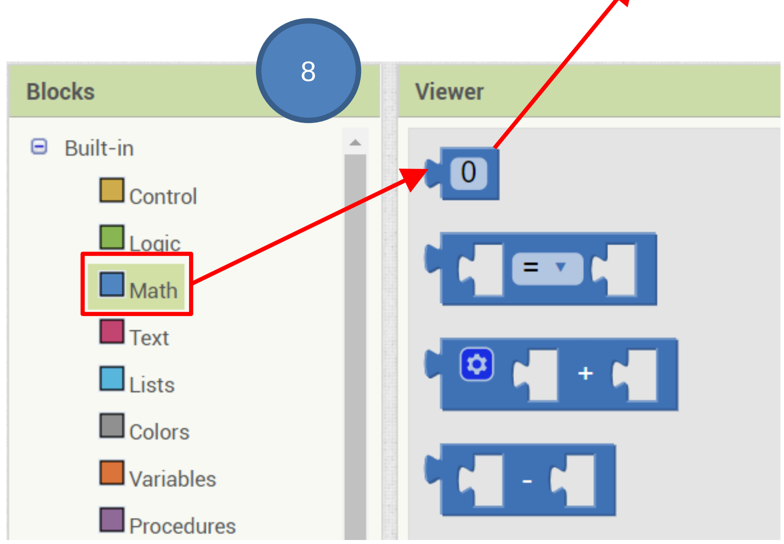


TWO-BUTTON GAME

LET'S CONTINUE



CT Tips
Math **operators** are required to make the app function correctly.

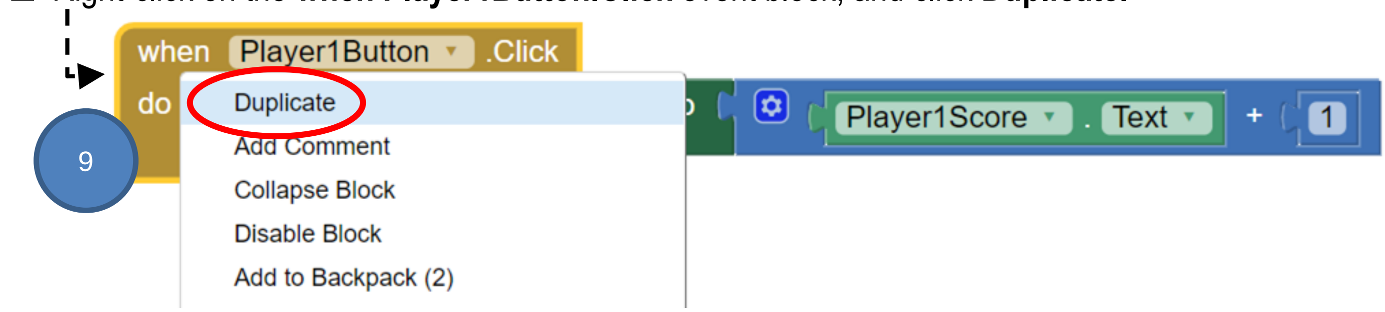


TWO-BUTTON GAME

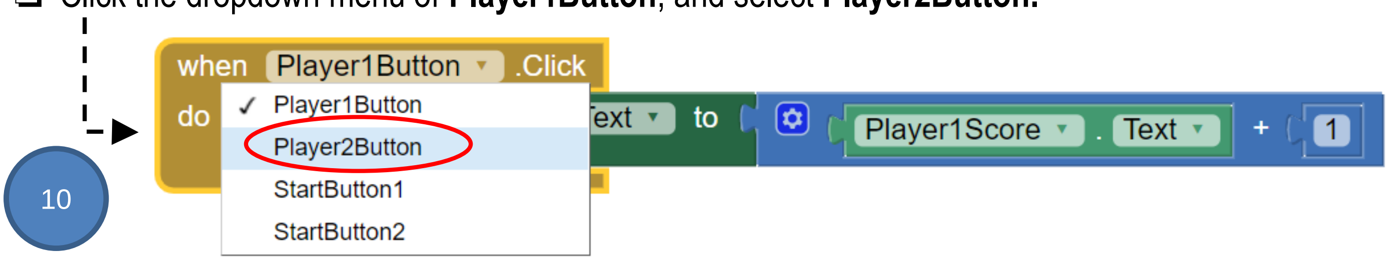
PLAYER2 BUTTON

Now, let's code the "Player 2" button by **duplicating** the "Player 1" button and changing it slightly.

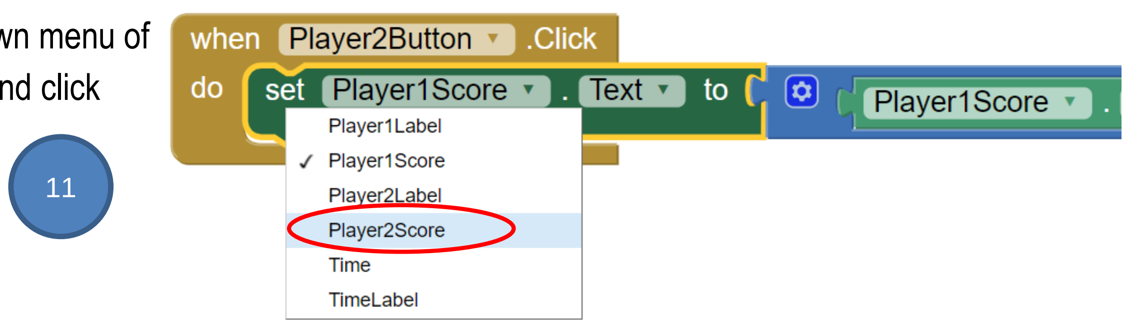
❑ Right-click on the **when Player1Button.Click** event block, and click **Duplicate.**



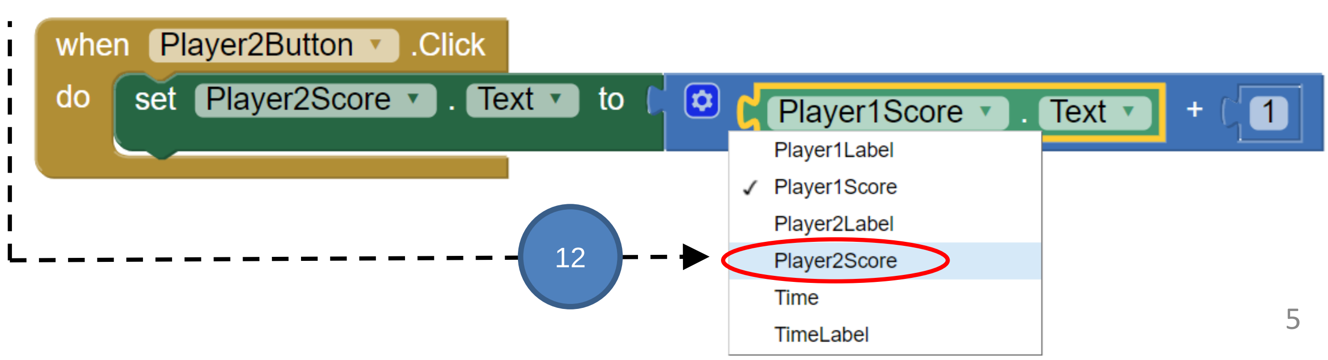
❑ Click the dropdown menu of **Player1Button**, and select **Player2Button.**



❑ Click the dropdown menu of **Player1Score**, and click **Player2Score.**



❑ Click the dropdown menu of **Player1Score**, and click **Player2Score.**

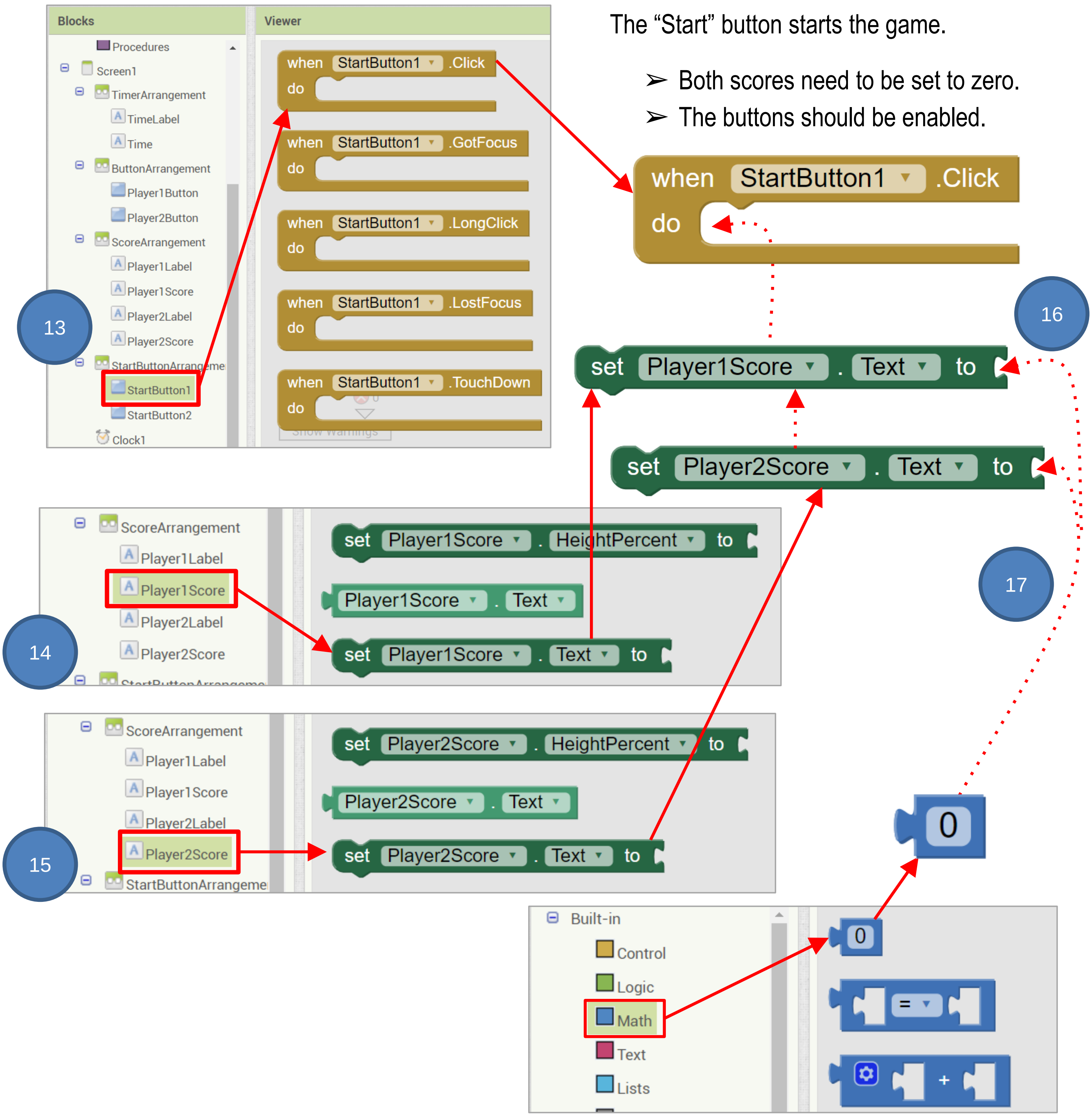


TWO-BUTTON GAME

START BUTTON

The “Start” button starts the game.

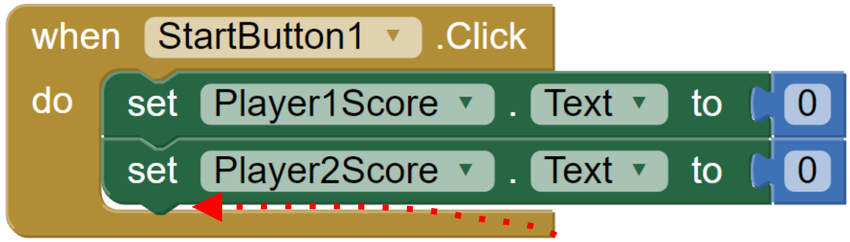
- ➢ Both scores need to be set to zero.
- ➢ The buttons should be enabled.

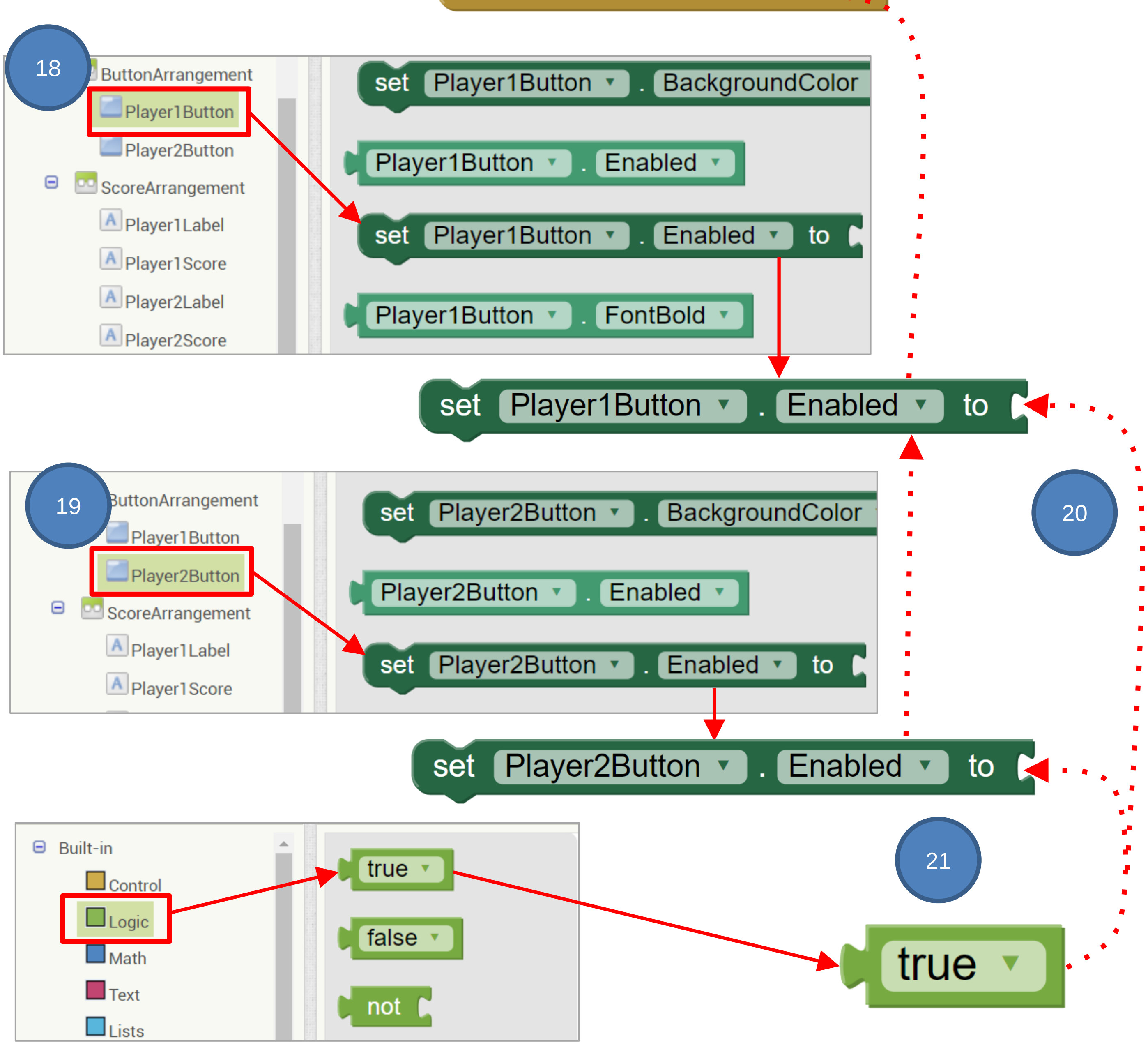


TWO-BUTTON GAME

LET'S CONTINUE

Now, let's enable the buttons.





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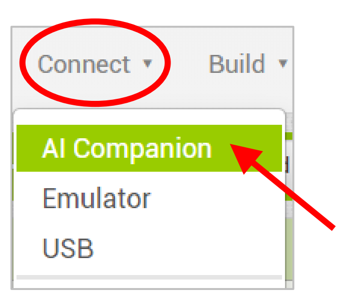
- ❑ Now test your app by connecting to the MIT AI2 Companion app. Start the game and press both buttons. Do the scores update correctly?



TWO-BUTTON GAME

ADD CLOCK TIMER

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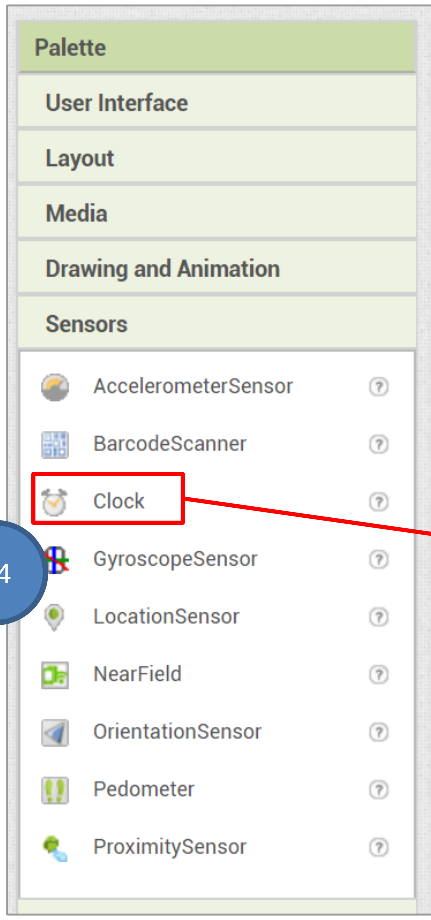
- ❑ Switch back to the Designer.

- ❑ From the Sensors palette, drag out a Clock component.



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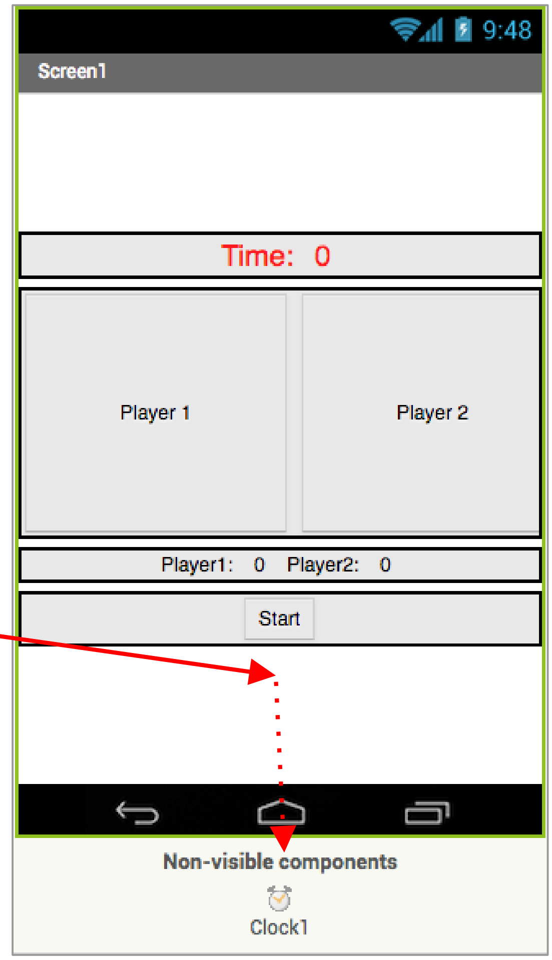

- ❑ Set **TimerEnabled** to **false** (uncheck the box), and change the **TimerInterval** to 1000 (1000 milliseconds = 1 second).

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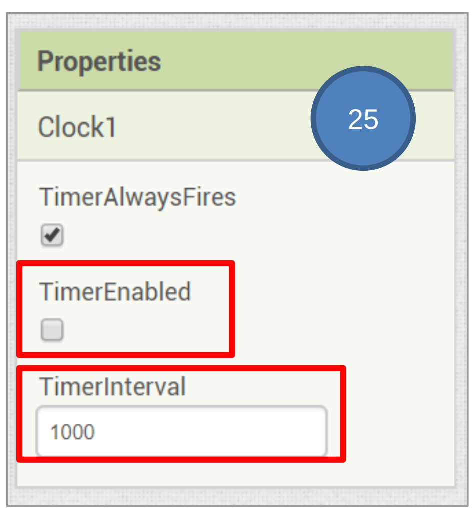

LET'S CONTINUE

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- ❑ Switch back to the Blocks Editor..

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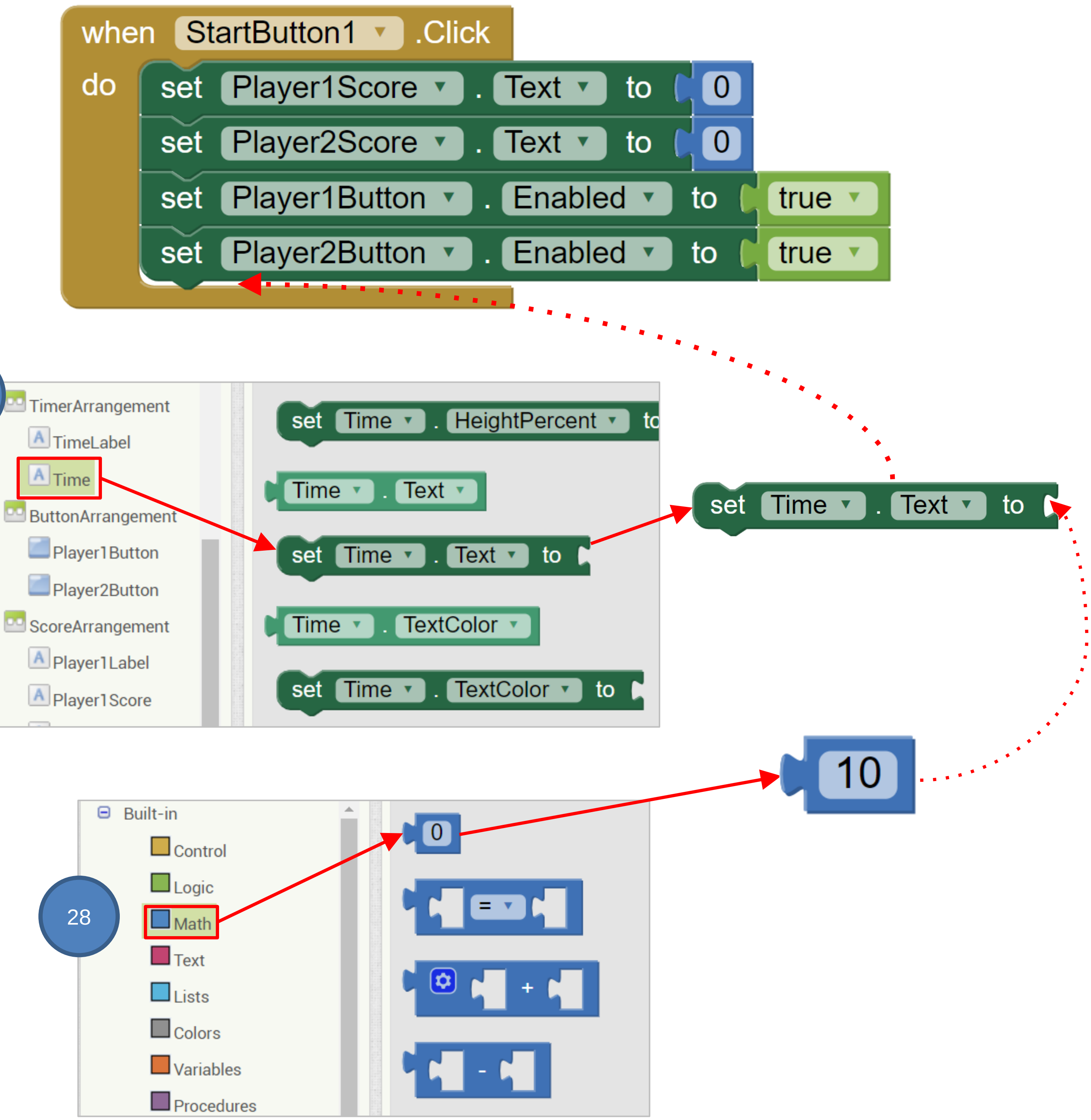
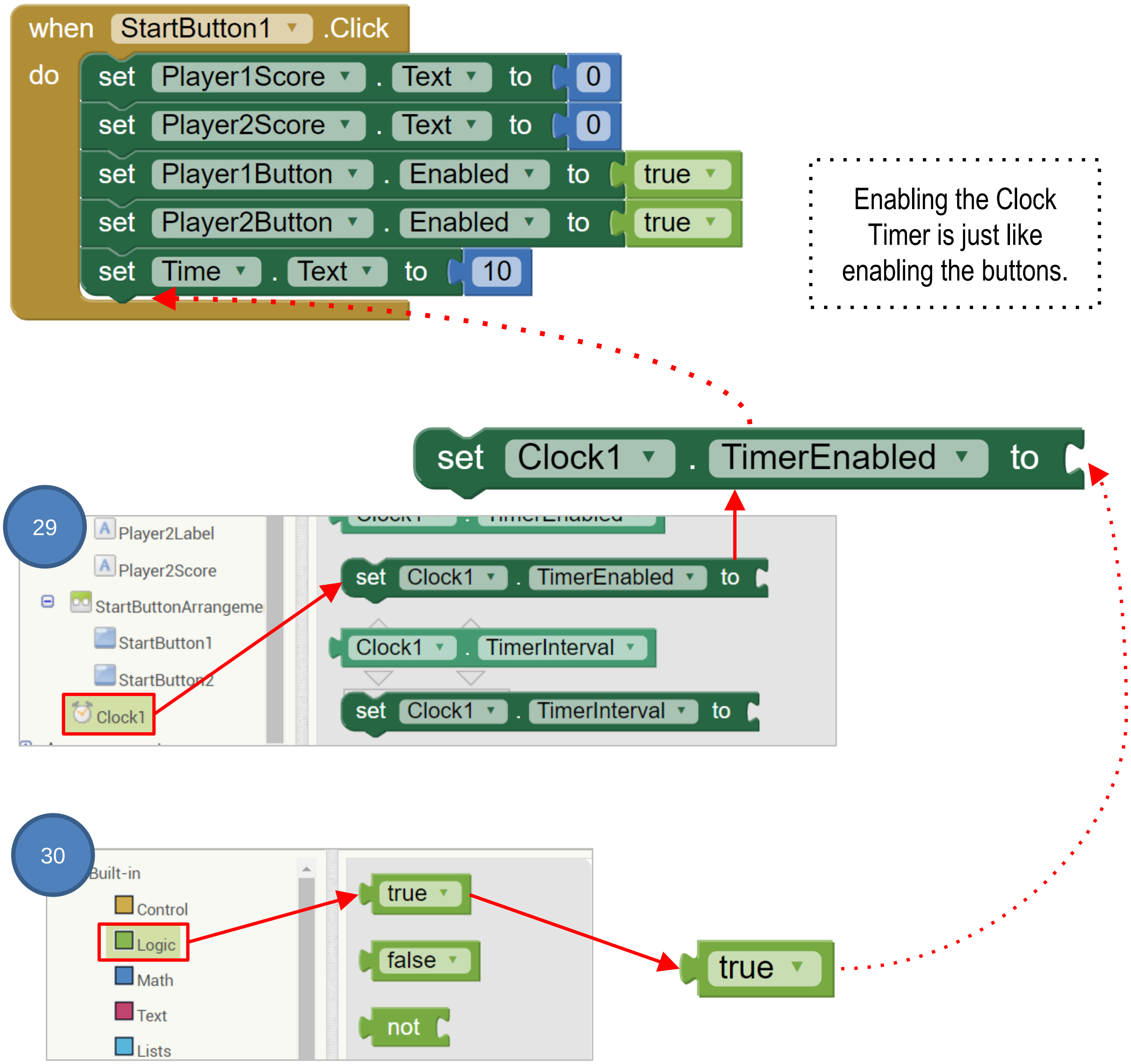


TWO-BUTTON GAME

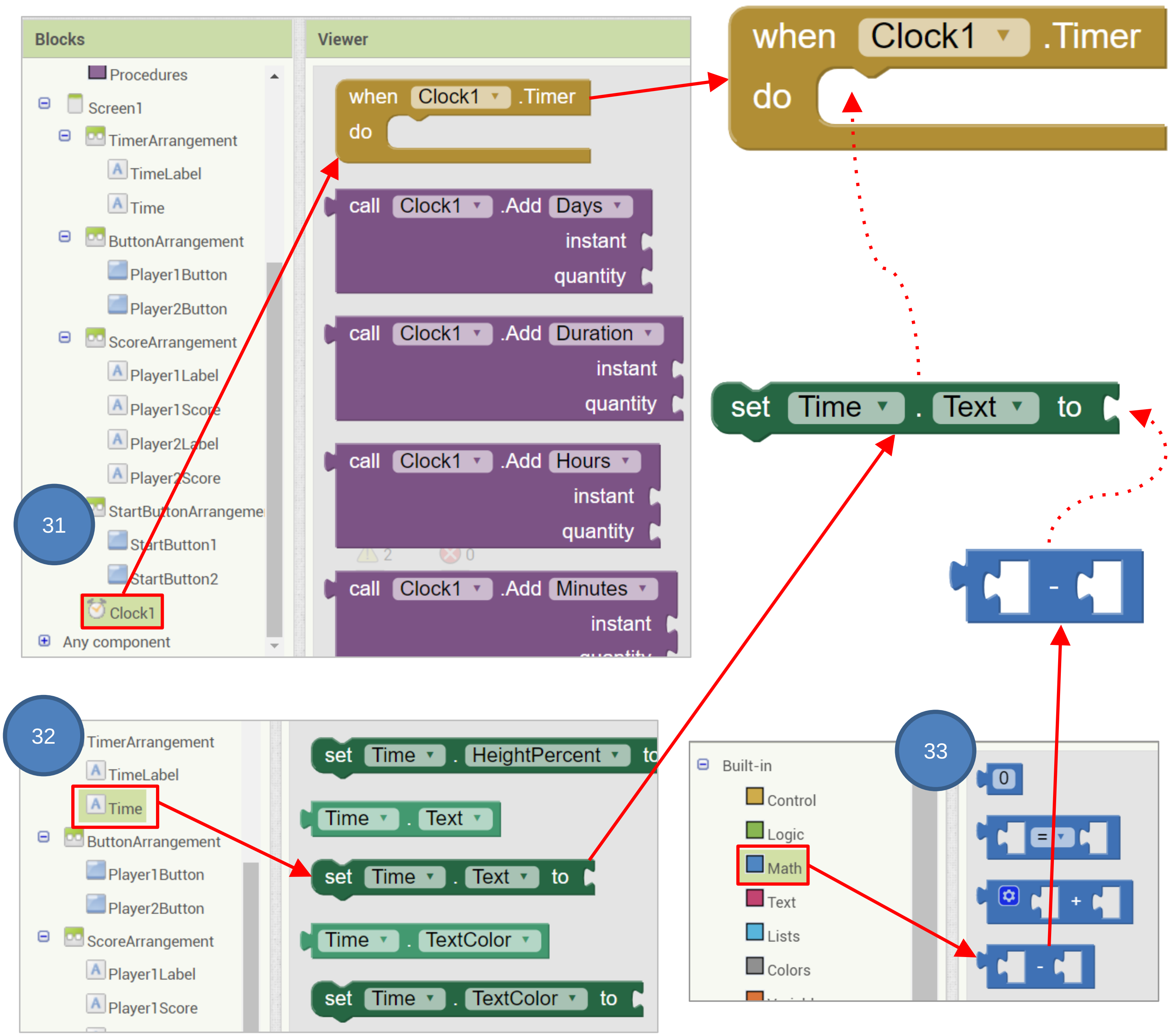
LET'S CONTINUE



TWO-BUTTON GAME

CLOCK TIMER

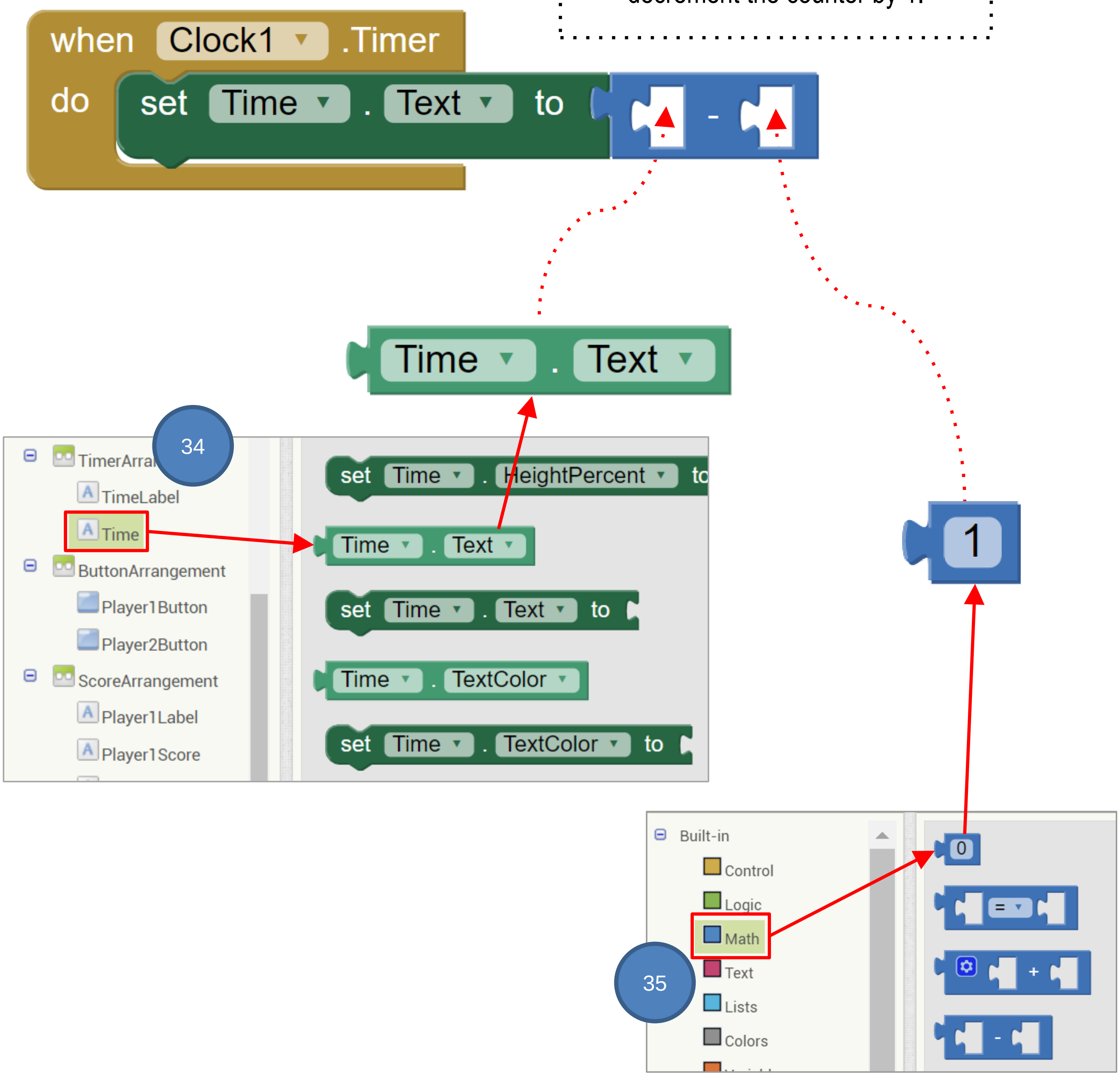
Every time the Clock Timer "fires", we need to update the time counter. Also, if we are out of time, we need to end the game by disabling both the Clock and the Player1/2 buttons.



TWO-BUTTON GAME

LET'S CONTINUE

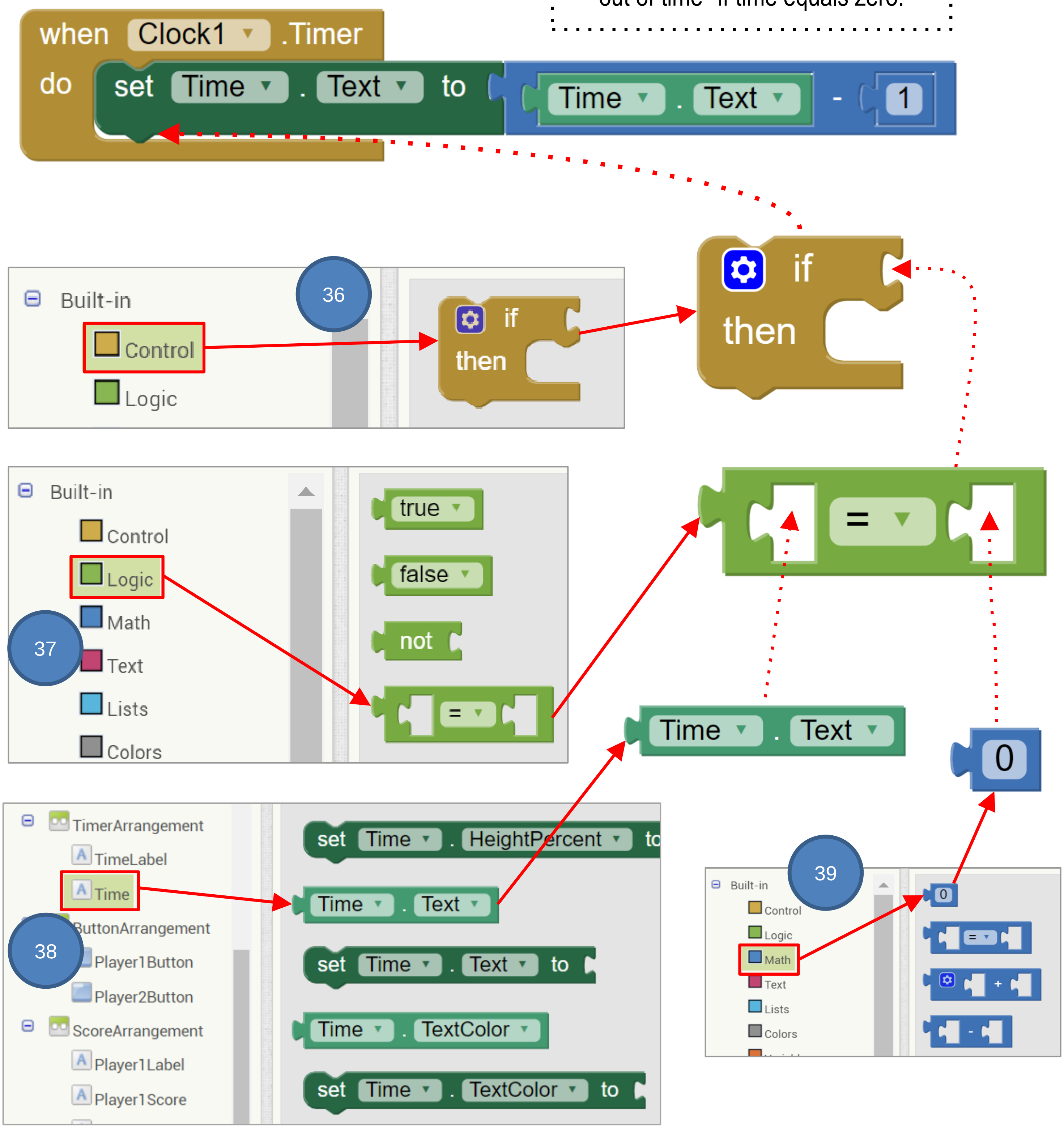
Every time the Clock Timer is called, a second has passed, so we need to decrement the counter by 1.



TWO-BUTTON GAME

LET'S CONTINUE

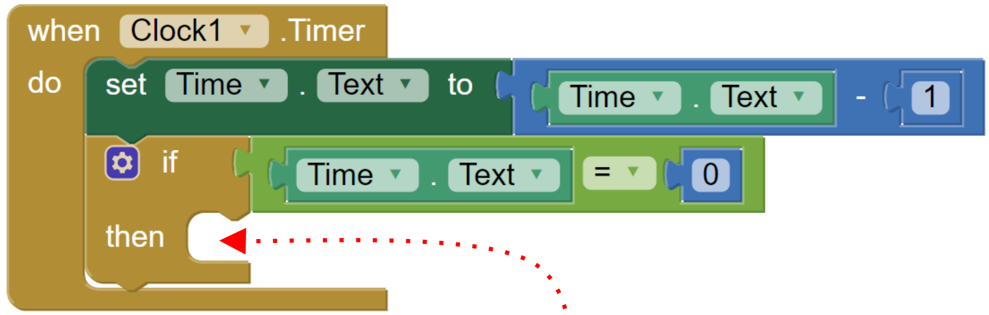
Now, we need to check if we've run out of time--if time equals zero.

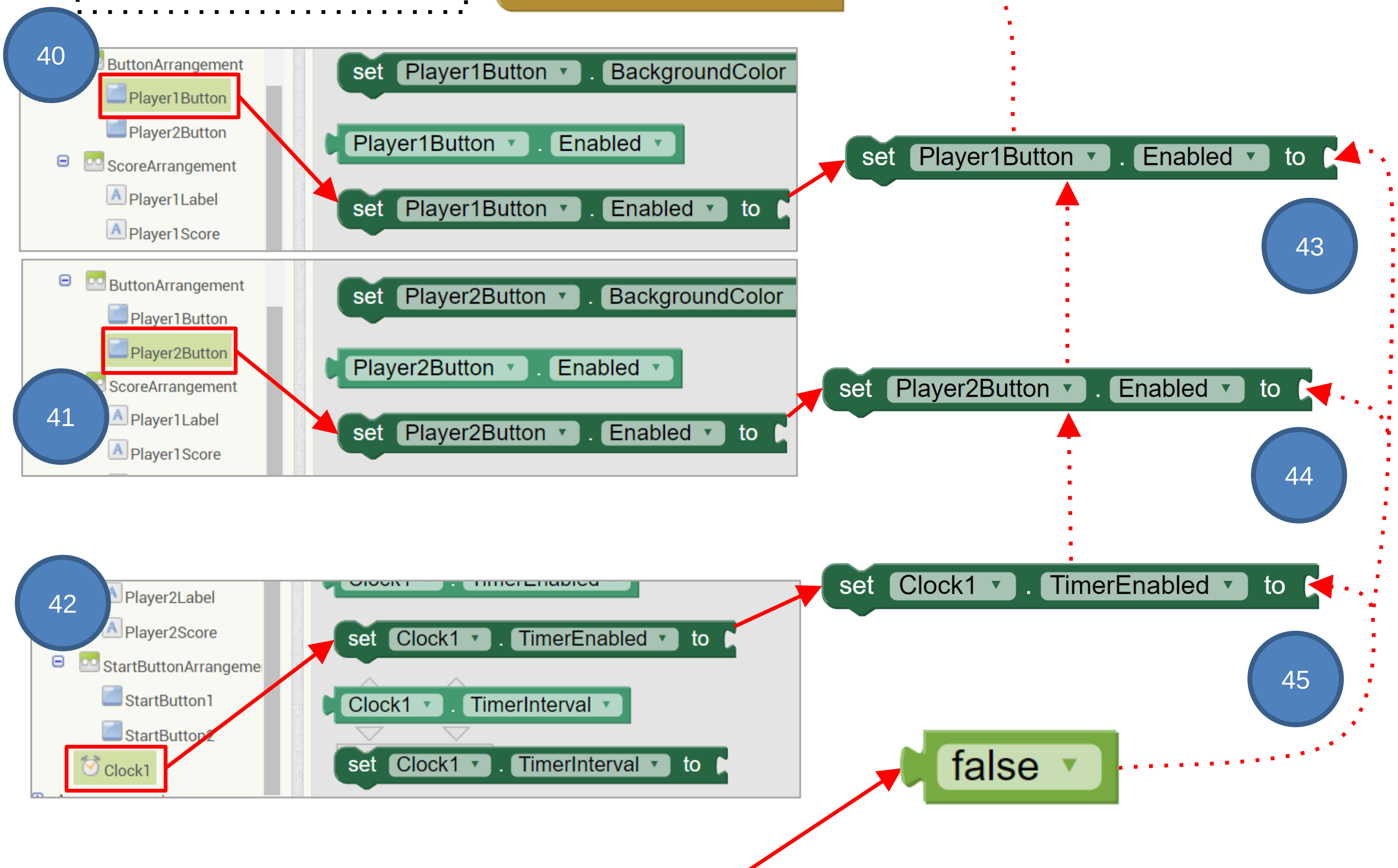


TWO-BUTTON GAME

LET'S CONTINUE

We need to disable the buttons and Clock Timer, just like we enabled them when starting the game.





❑ Now test your app again by connecting to the MIT AI2 Companion app. Does it work as expected?

TWO-BUTTON GAME

COMPUTATIONAL THINKING CONCEPTS

The following are the computational thinking concepts learnt in Lesson 1.

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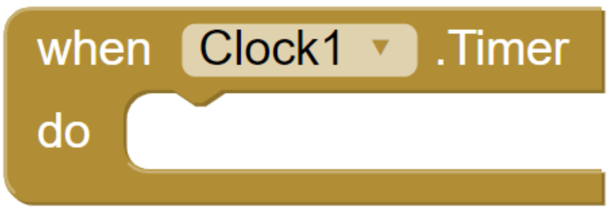
<tr><td>1. Events:</td><td>
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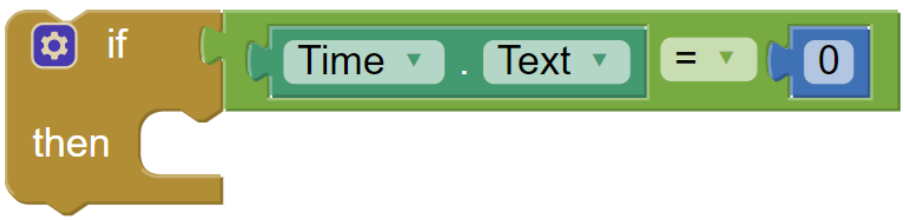
<tr><td>2. Conditionals:</td><td>
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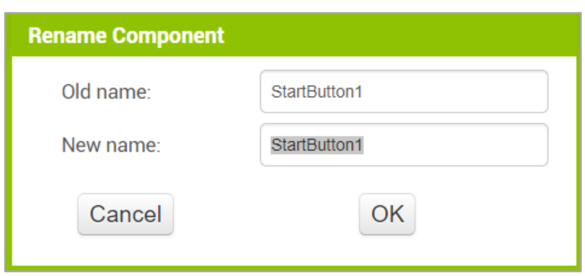
<tr><td>3. Naming:</td><td>
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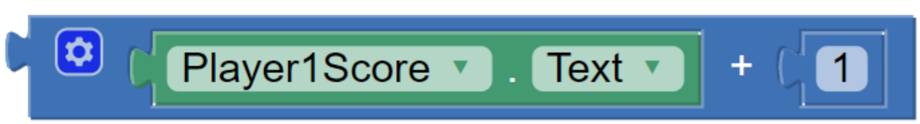
<tr><td>4. Operators:</td><td>
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