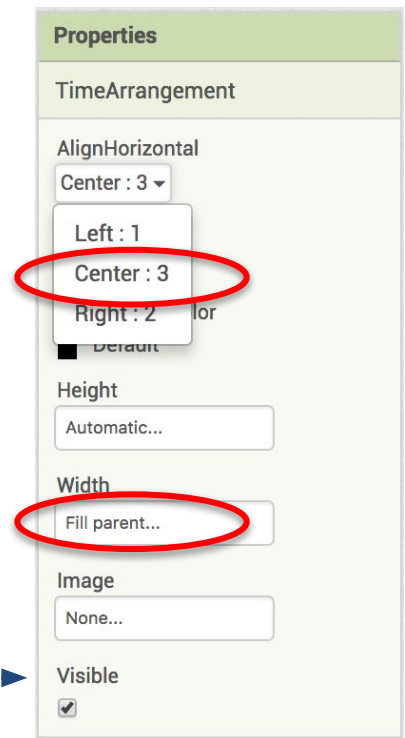
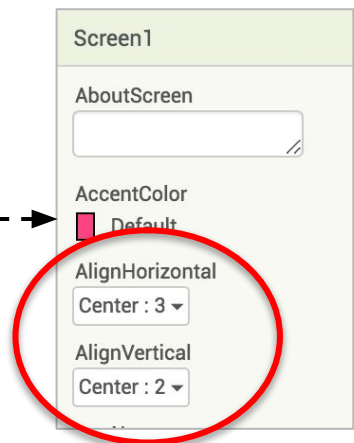
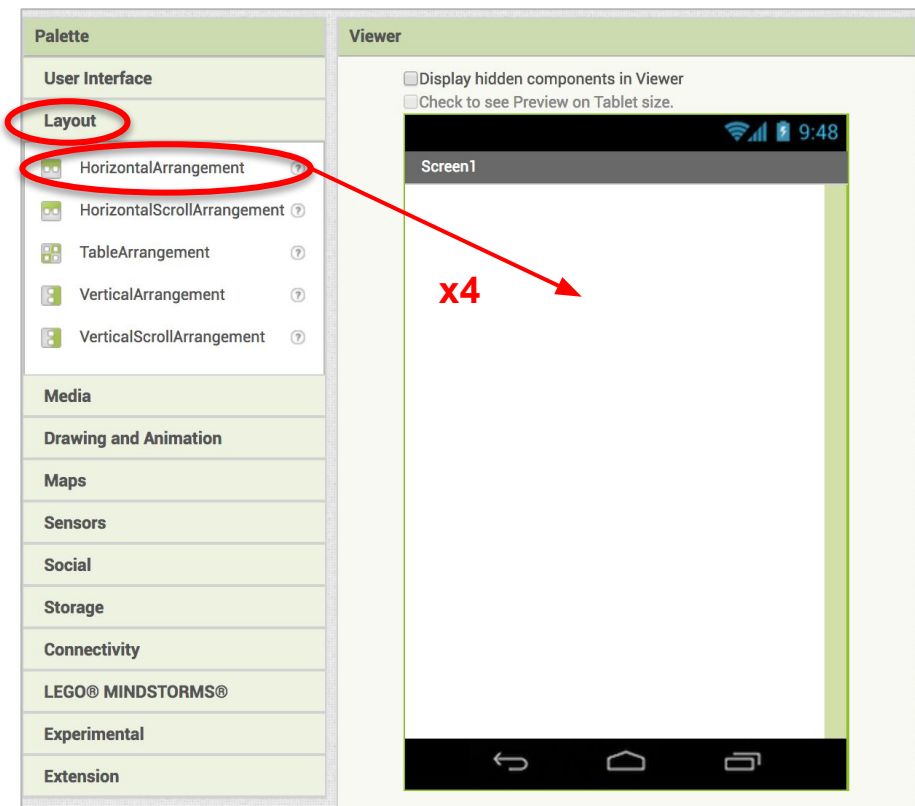


TWO-BUTTON GAME: PART 1

START HERE

In this lesson, you will remake the two button game from Unit 1. Users click the buttons as fast as they can!

- 1 Open a new project in MIT App Inventor and name the project "TwoButtonGame".
- 2 Set *AlignHorizontal* and *AlignVertical* for **Screen1** to **Center**.
- 3 Drag in 4 **HorizontalArrangements**. Name them *TimeArrangement*, *ButtonArrangement*, *ScoreArrangement*, and *StartButtonArrangement*.



- 4 For each **HorizontalArrangement**, change its *AlignHorizontal* property to "Center" and its *Width* property to "Fill Parent".

ADDING COMPONENTS

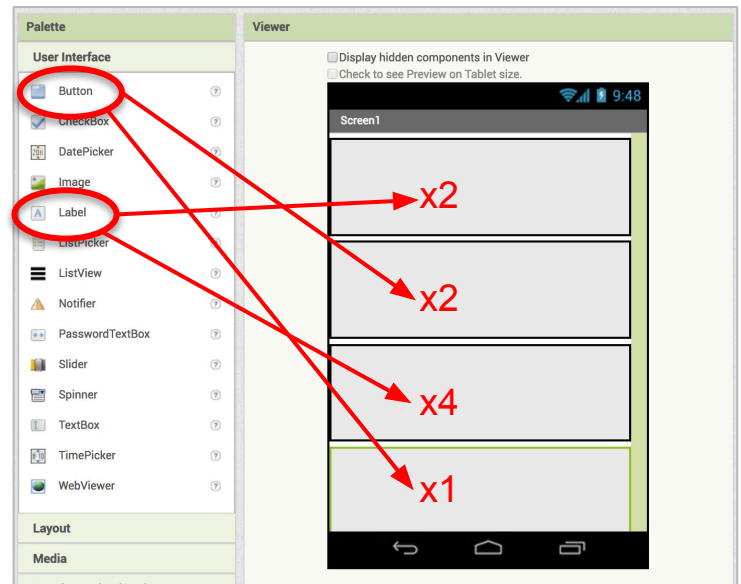
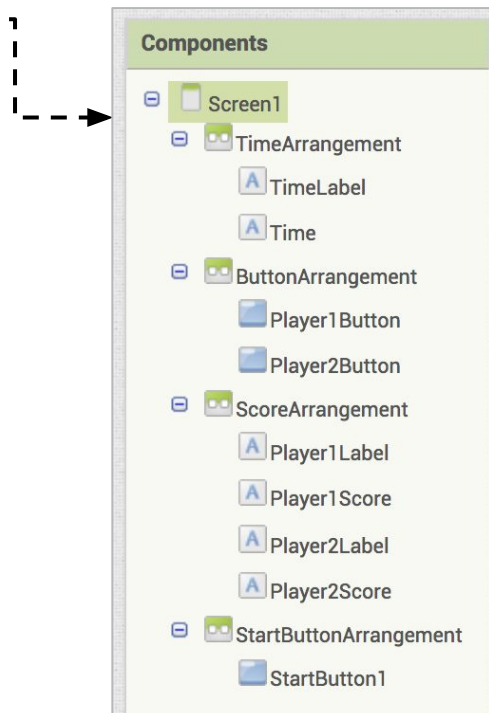
5

Drag in the following components to the corresponding HorizontalArrangement:

- TimerArrangement - 2 labels
- ButtonArrangement - 2 buttons
- ScoreArrangement - 4 labels
- StartButtonArrangement - 1 button

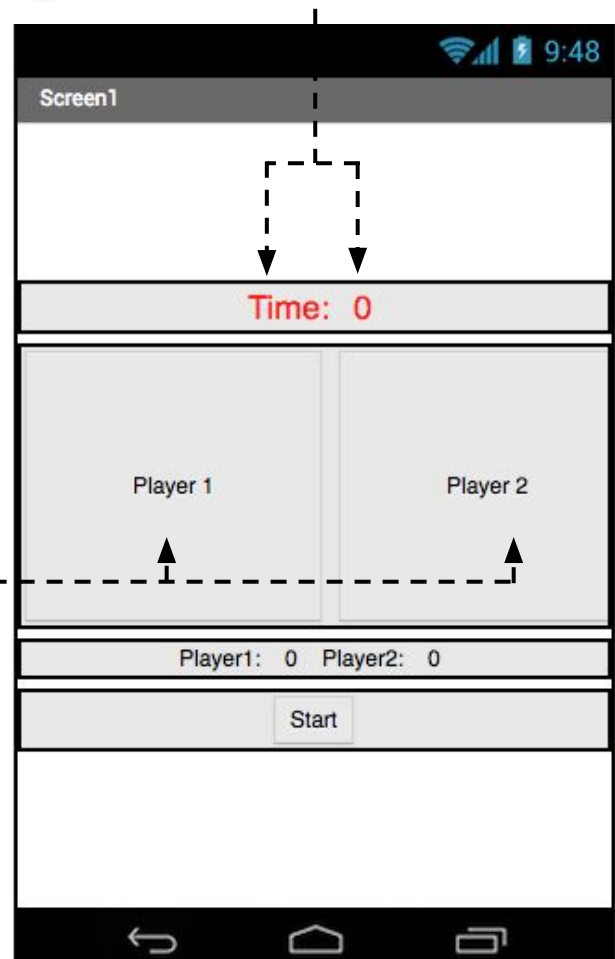
6

Name each new component as shown below.



7

Change the *TextColor* for these labels to **Red** and the *FontSize* to **20**.

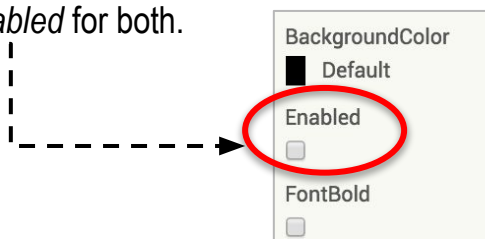


8

Set the *Text* property of each component so the final User Interface looks like this. -->

9

Set the *Height* property for these two buttons to **150 pixels**, and the *Width* property to **50 percent**. Then uncheck *Enabled* for both.



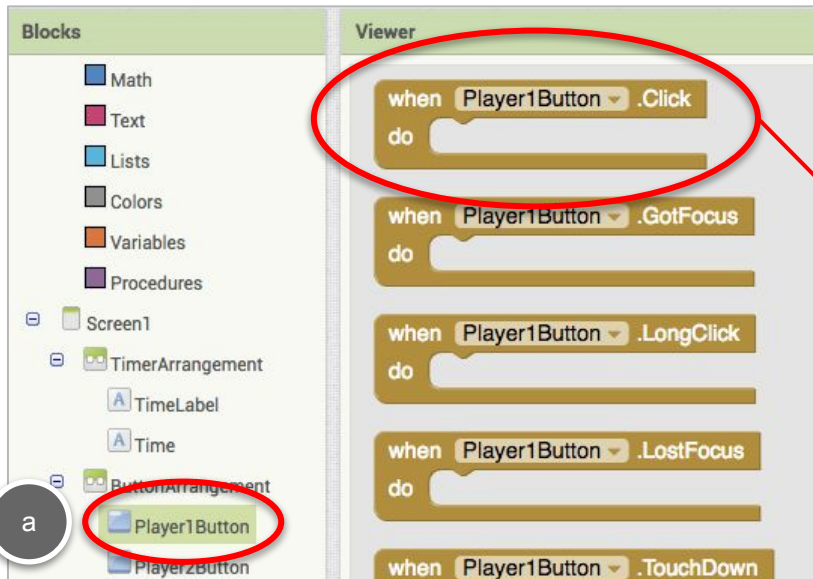
BLOCKS

10

Switch to the Blocks editor from the Designer.

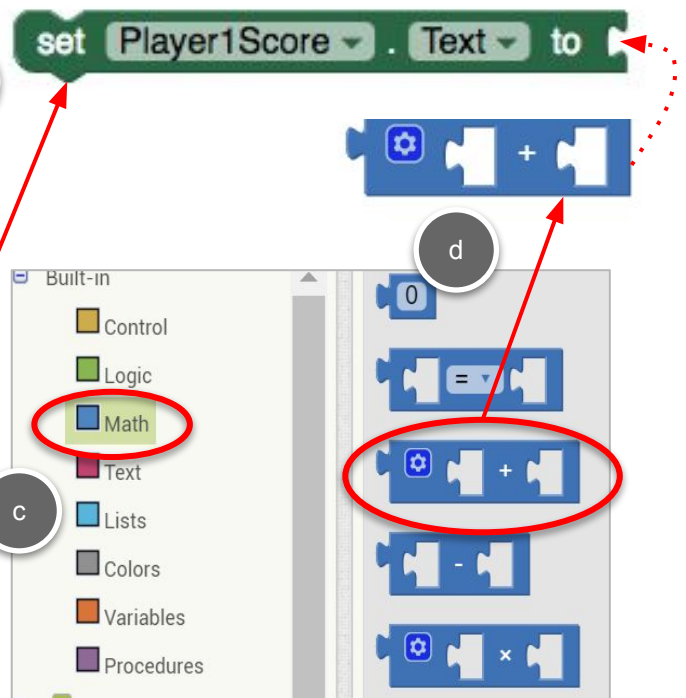
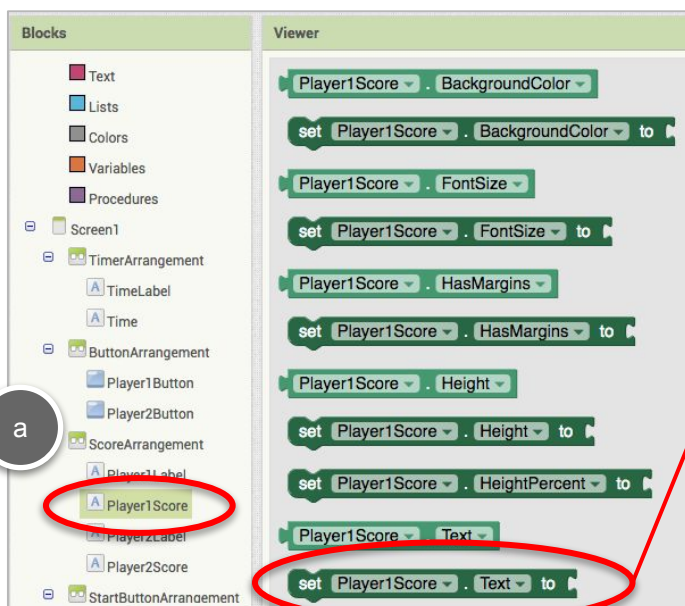


11

Drag out a **Player1Button.Click** event block.

12

Increase Player1's score by 1.



INCREASE SCORE

13 Fill in the addition block.

The screenshot shows the MIT App Inventor interface. On the left, the 'Blocks' palette has the 'Player1Score' block circled in red, labeled 'a'. In the center, the 'Viewer' shows the code for the 'Player1Score' block, with the 'Text' property being set. On the right, the 'Built-in' palette has the 'Math' category circled in red, labeled 'c'. The 'Player1Score.Text' block is being dragged into the addition block, labeled 'b'. The number '1' is being dragged into the second input of the addition block, labeled 'd'.

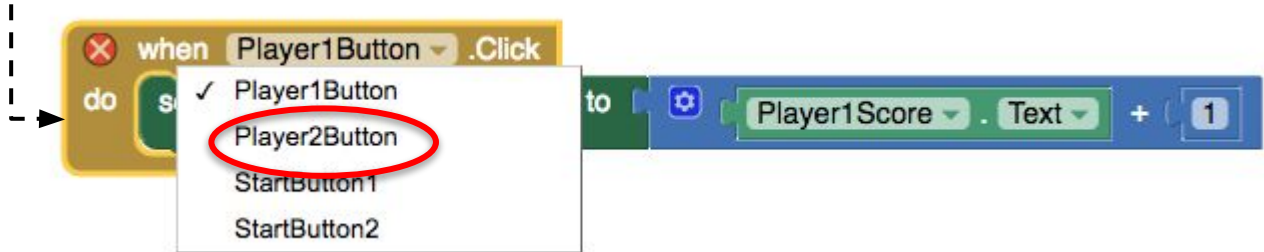
Now, code the **Player2Button** by duplicating the **Player1Button.Click** event and changing it slightly.

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

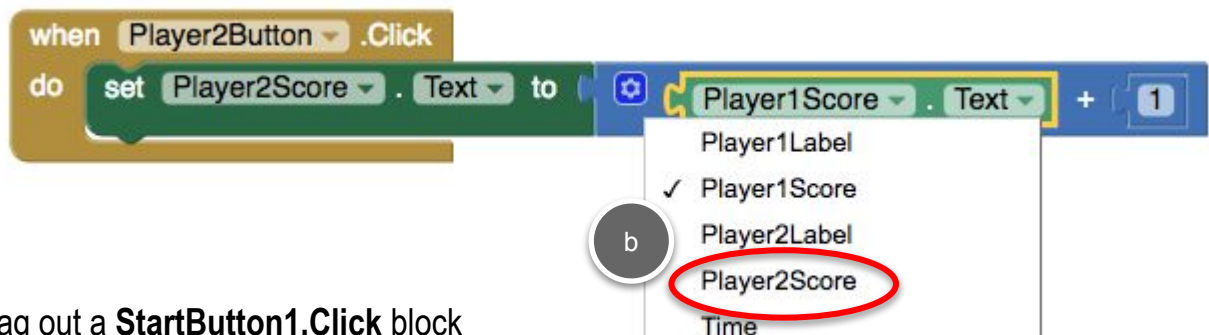
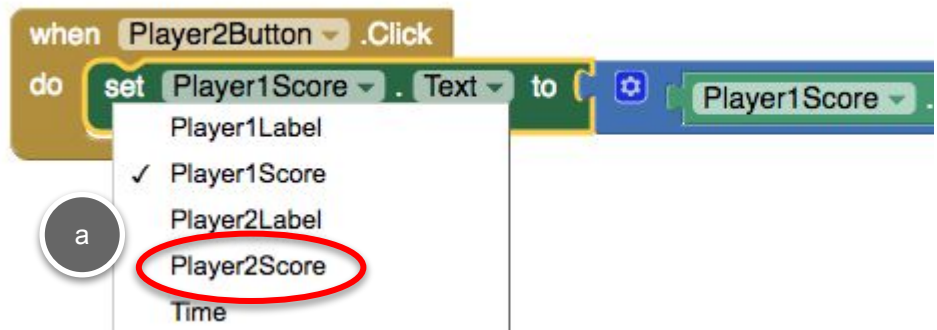
The screenshot shows the MIT App Inventor interface. A right-click context menu is open over the 'when Player1Button.Click' event block. The 'Duplicate' option is circled in red. The menu options are: Duplicate, Add Comment, Collapse Block, Disable Block, Add to Backpack (6), Delete 5 Blocks, and Help. The background code for the 'when Player1Button.Click' event is visible, showing the 'set Player1Score.Text to' block with the addition block.

PLAYER2 BUTTON

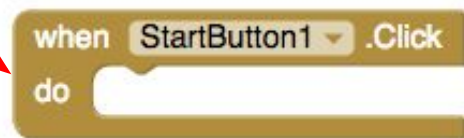
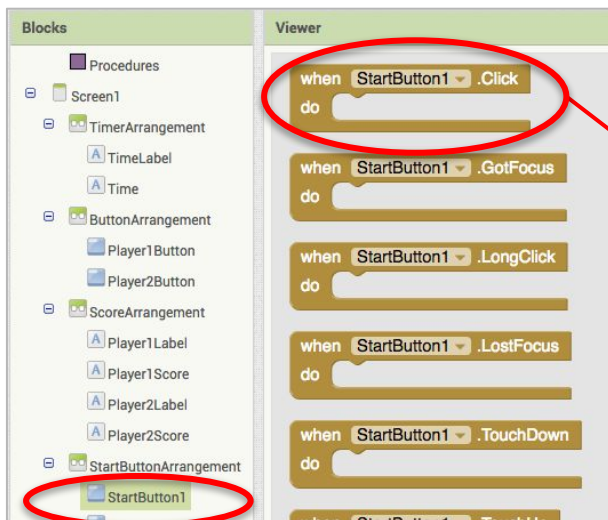
- 15 Click the dropdown menu of **Player1Button**, and select **Player2Button**.



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



- 17 Drag out a **StartButton1.Click** block

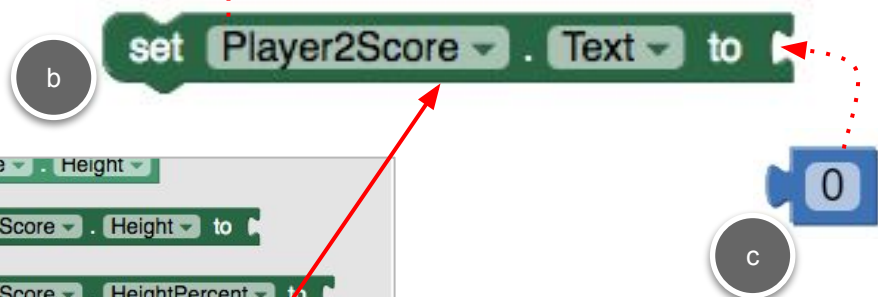


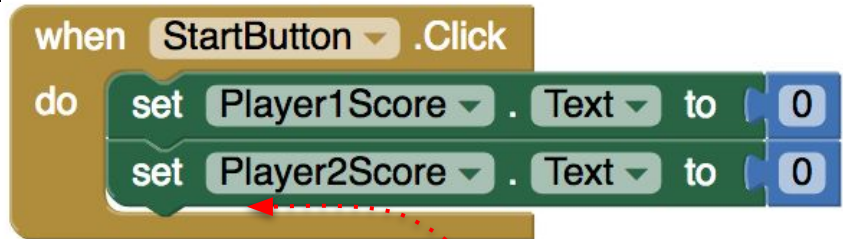
START BUTTON

18 Set Player1's score to zero.

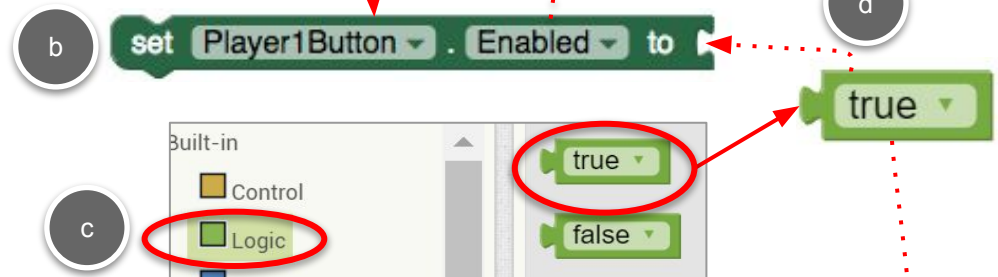


19 Do the same for Player2.



START BUTTON (continued)

20 Now enable **Player1Button** so users can click on it.



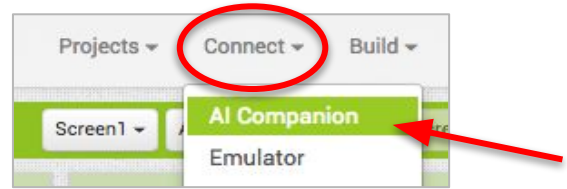
21 Also enable **Player2Button**.



TESTING!

22



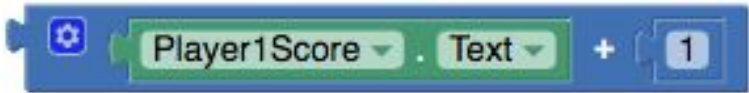
Now test your app by connecting to the MIT AI2 Companion. Start the game and press both buttons. Do the scores update correctly?



TWO-BUTTON GAME: PART 1

COMPUTATIONAL THINKING CONCEPTS

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

Two-Button Game	
1. Events:	 <p>A Scratch 'when clicked' block with 'Player1Button' selected in the dropdown menu and '.Click' as the event.</p>
3. Naming:	 <p>A 'Rename Component' dialog box. The 'Old name' field contains 'Label2'. The 'New name' field contains 'Player2Score'. There are 'Cancel' and 'OK' buttons at the bottom.</p>
4. Operators:	 <p>A Scratch 'increase score' block. The dropdown menu shows 'Player1Score'. The 'Text' dropdown is set to 'Text'. The value '1' is entered in the input field.</p>