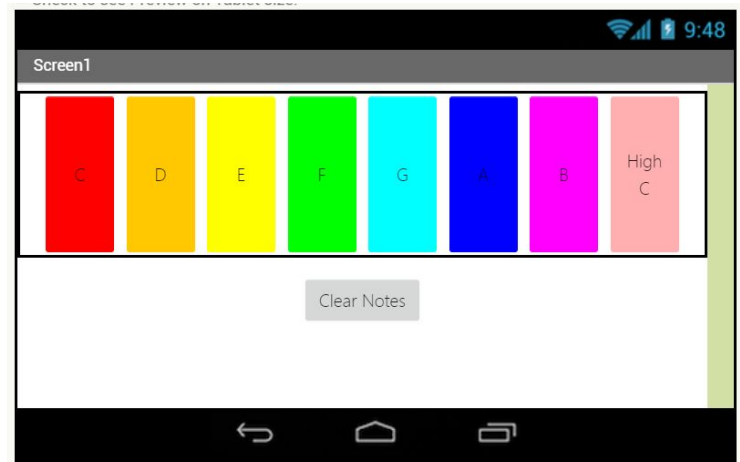


MY PIANO:

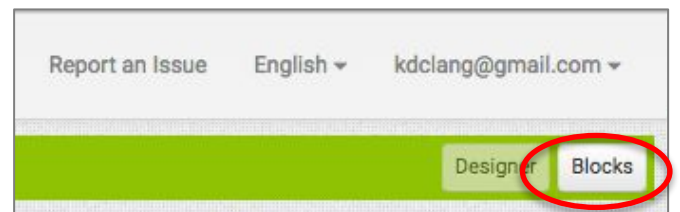
PART 3

START HERE

In this activity, you will learn how to use a procedure to manage the blocks of all the piano keys.

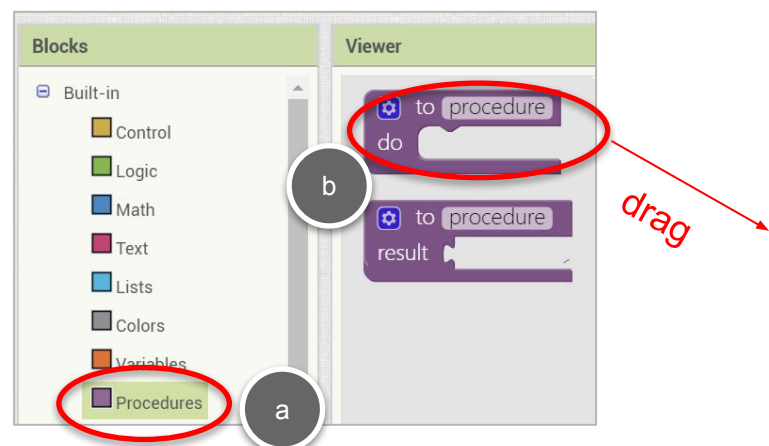


- 1 Go to the MIT App Inventor website (<http://ai2.appinventor.mit.edu>) and click the **Blocks** button to go to the Blocks Editor.

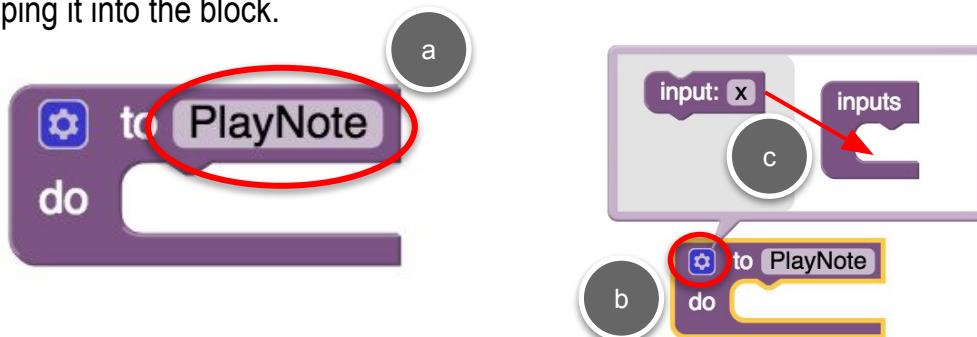


Because the code blocks for **CNote.Click** and **DNote.Click** are so similar, we are going to make a procedure to play the notes.

- 2 Click on **to procedure** in the **Procedures** Drawer, then drag out a **to procedure** block.



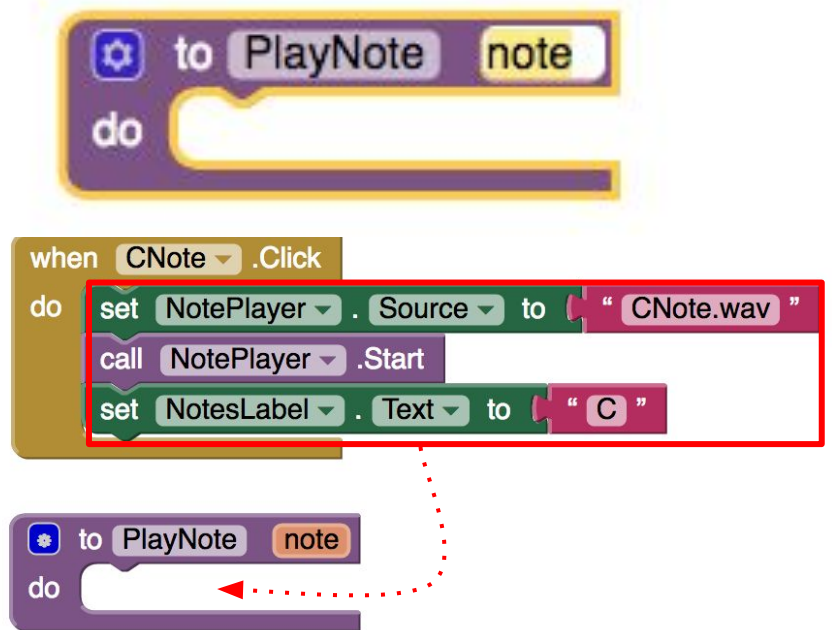
- 3 Change the name to **PlayNote**. Add an input by clicking on the blue circle and snapping it into the block.



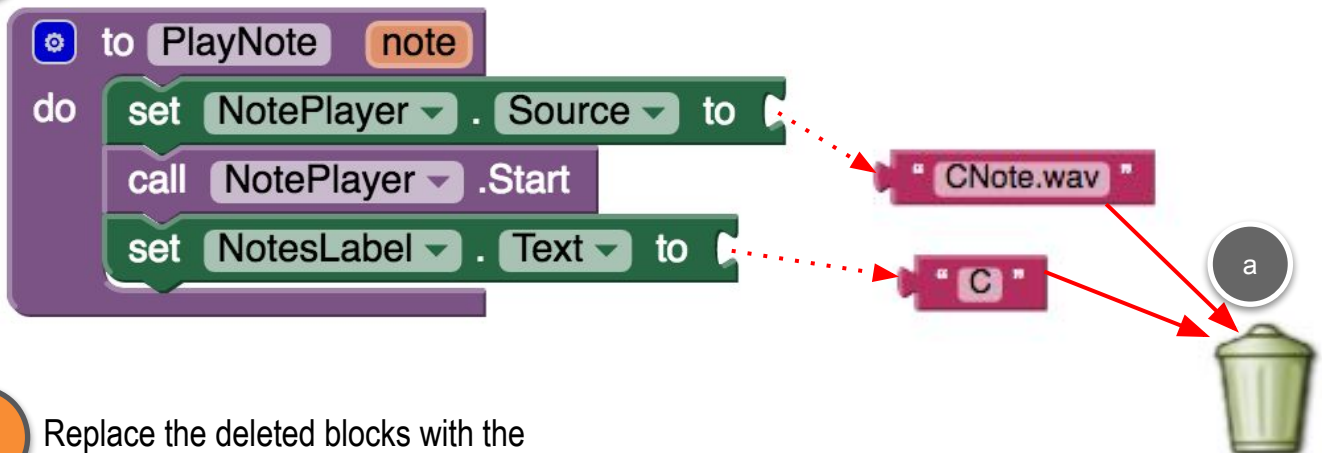
WRITE A PROCEDURE

4 Then, rename the input “note”.

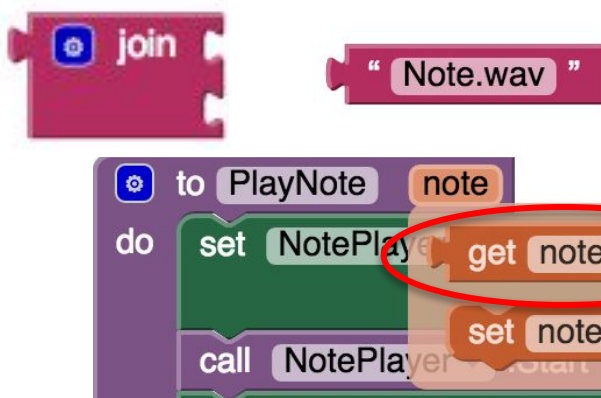
5 The code for the procedure is similar to the **CNote.Click** block, so drag the code inside **CNote.Click** to the new **PlayNote** procedure Block.



6 Delete the original Text blocks.



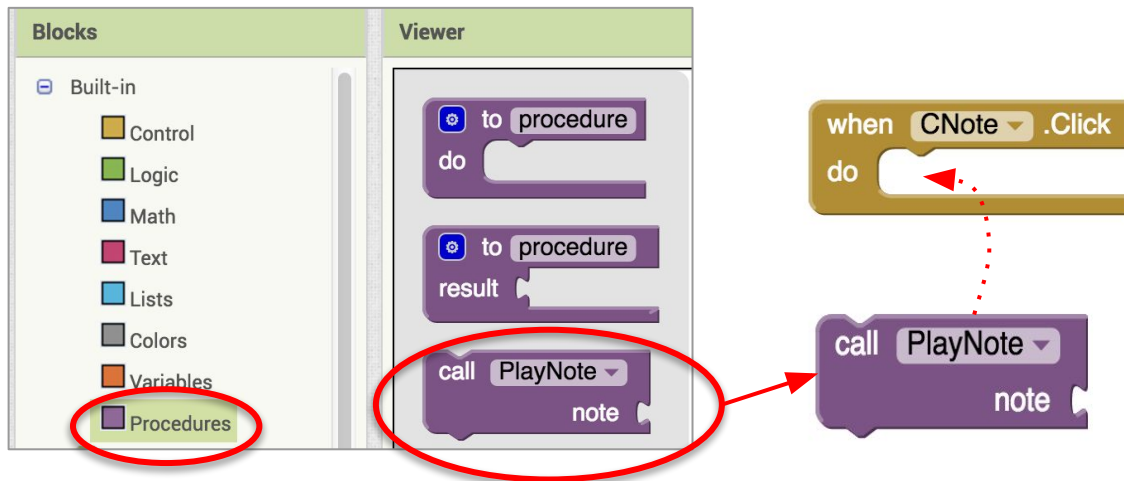
7 Replace the deleted blocks with the following blocks.



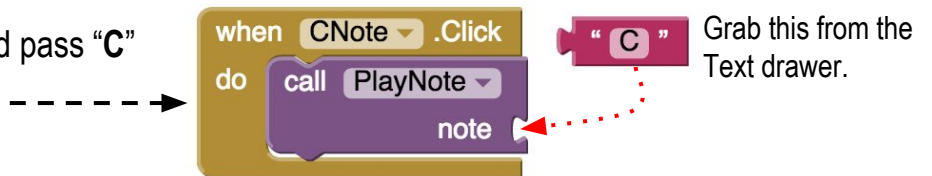
If note is “C”, joining it with “Note.wav” makes “C”+”Note.wav”, or “CNote.wav”, the name of the sound file.

CALL PLAYNOTE

- 8 Drag out a **call PlayNote** block from the **Procedures** drawer and add to **CNote.Click** so that the PlayNote code runs when the C note is pressed.

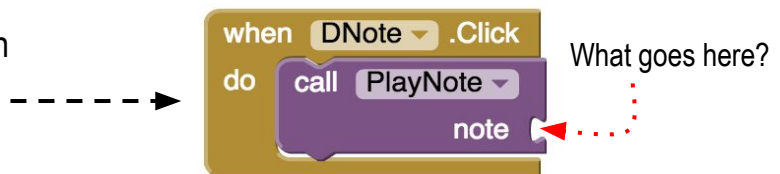


- 8 Complete the puzzle piece and pass “C” as the note to **PlayNote**.

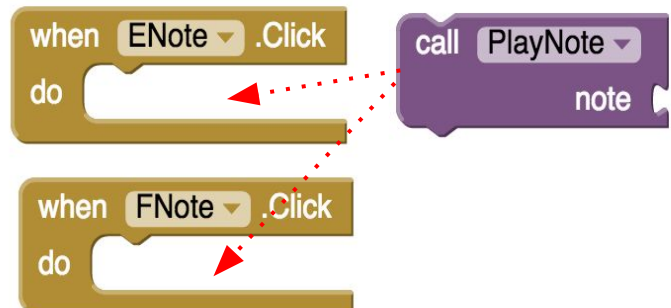


- 10 Do the same for **DNote.Click**.

Delete the code blocks that were in **DNote.Click**, and replace it with a call to **PlayNote**.



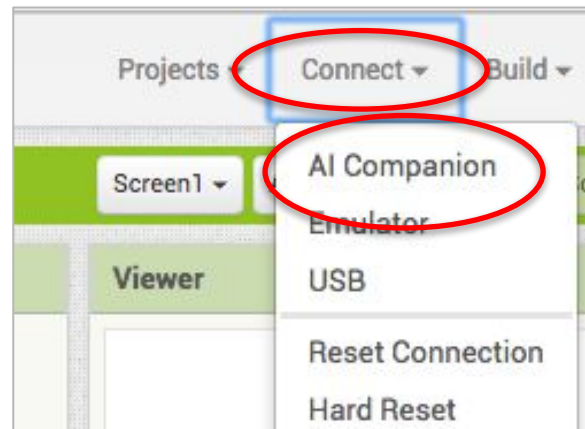
- 11 Add **.Click** event blocks for all the other note buttons, and call **PlayNote** with the correct note for each button.



TEST THE APP

12

Test your app with the MIT AI2 Companion to make sure you can play all eight notes and see the correct notes displayed.



CHANGE THE APP

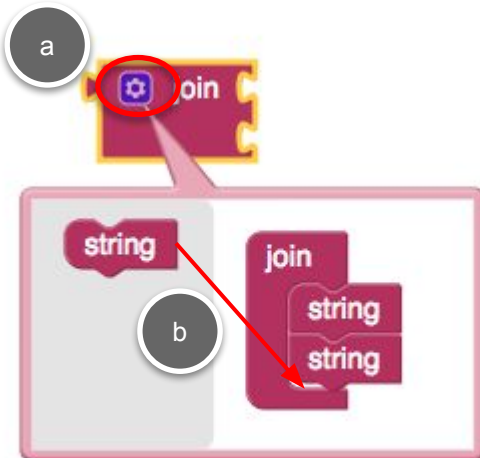
Let's make a change to our app.
Instead of just displaying the current note, let's display **all** the notes pressed in sequence, like "A C C C D E F" etc.

13

In the **PlayNote** procedure, update **set NotesLabel.text** so it uses a **join** block, with 3 inputs.



By using a procedure, you can update your app in one place, instead of having to update all the Click event blocks!



These are the other blocks you will need.

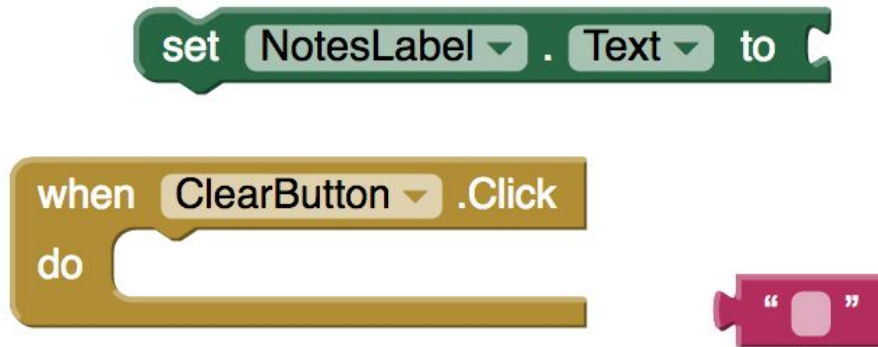


← A space " ", not a blank!



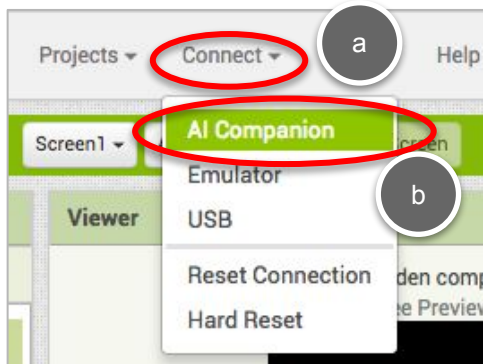
CLEAR BUTTON

- 14 Sometimes the string of notes can get too long, so code the Clear button to reset the string. Use the following blocks.

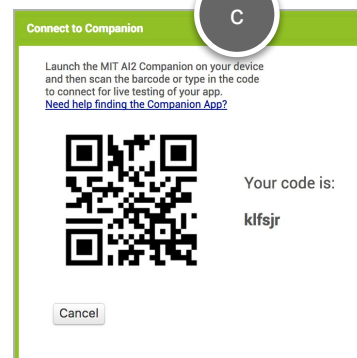


TESTING!

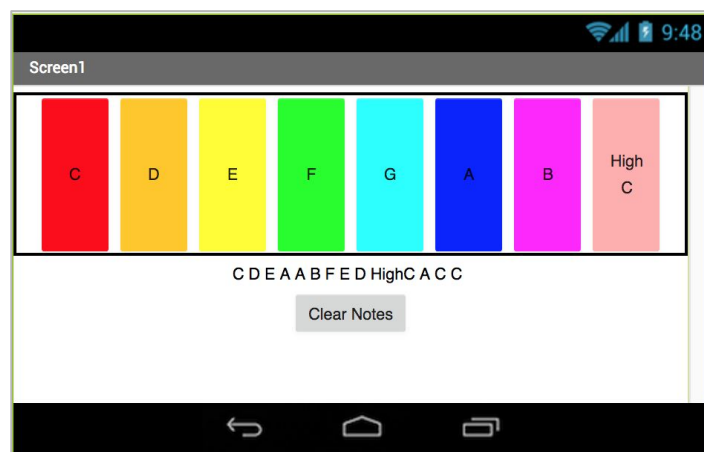
- 15 Now test your app on your tablet!



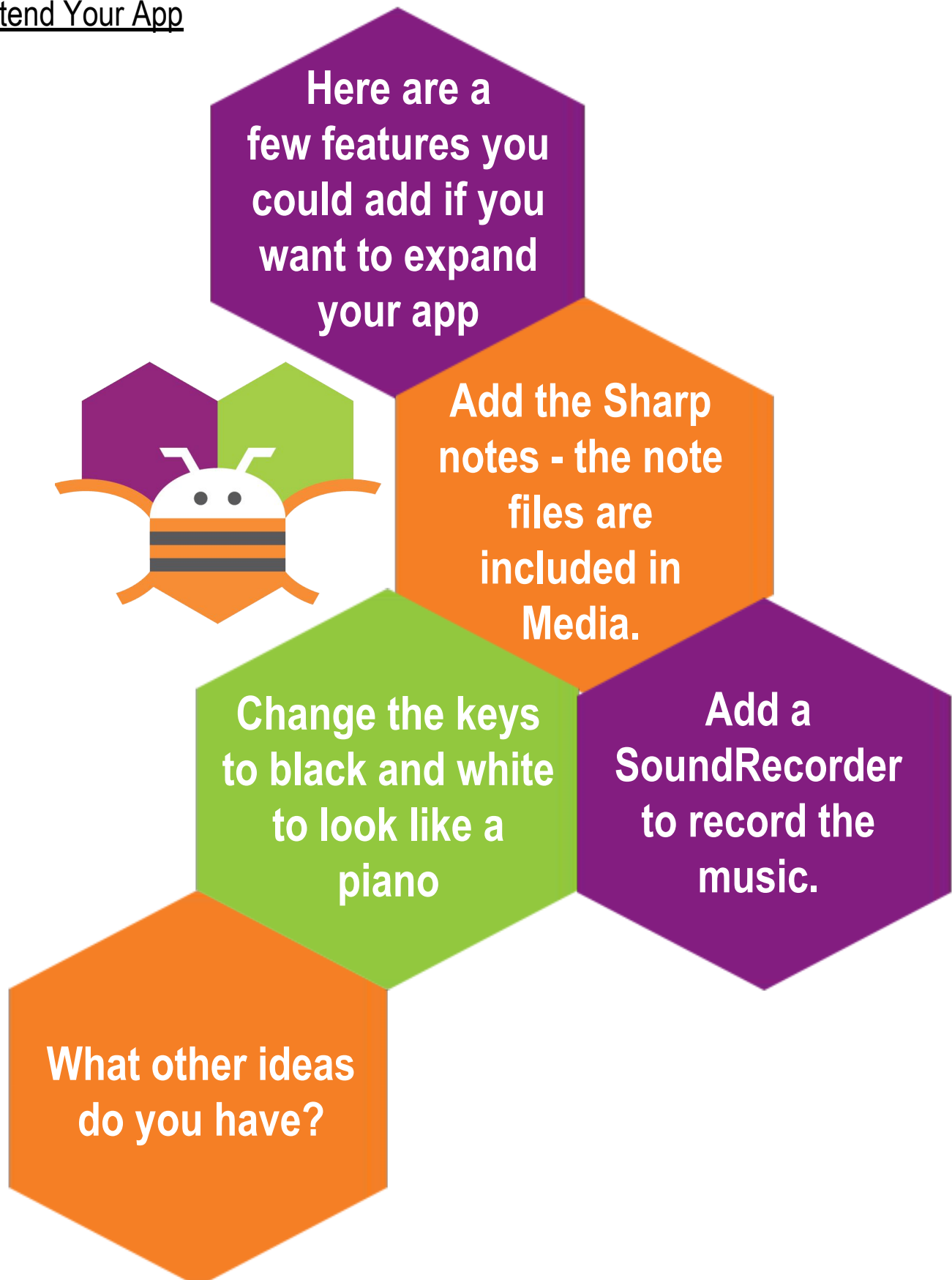
Scan the QR code with
MIT AI2 Companion



- 16 Play with your piano. Try to press all the “keys” and you should hear the corresponding notes and see which notes you play appear in **NotesLabel**.




Extend Your App



COMPUTATIONAL THINKING CONCEPTS

The following are the Computational Thinking Concepts learned in Part 3.

My Piano			
1. Naming			
			
2.	Abstraction	and	Modularization (Procedures)
