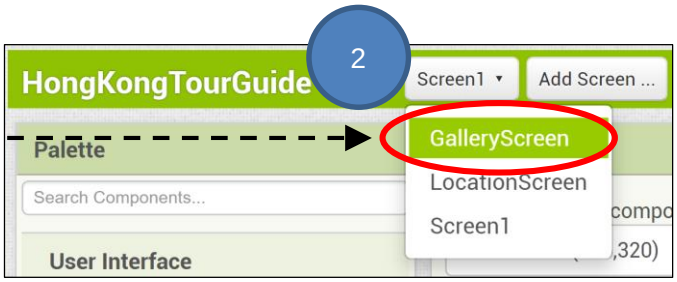
HONG KONG TOUR GUIDE

GALLERY SCREEN

In this lesson, you will code the GalleryScreen so users can take picture of the site!

❑ Open your HongKongTourGuide project. 1

❑ Go to "GalleryScreen". 2



❑ Switch to the Designer. 3

❑ With your partner, look at the user interface and see if you can identify what each component does. See the screen layout below.

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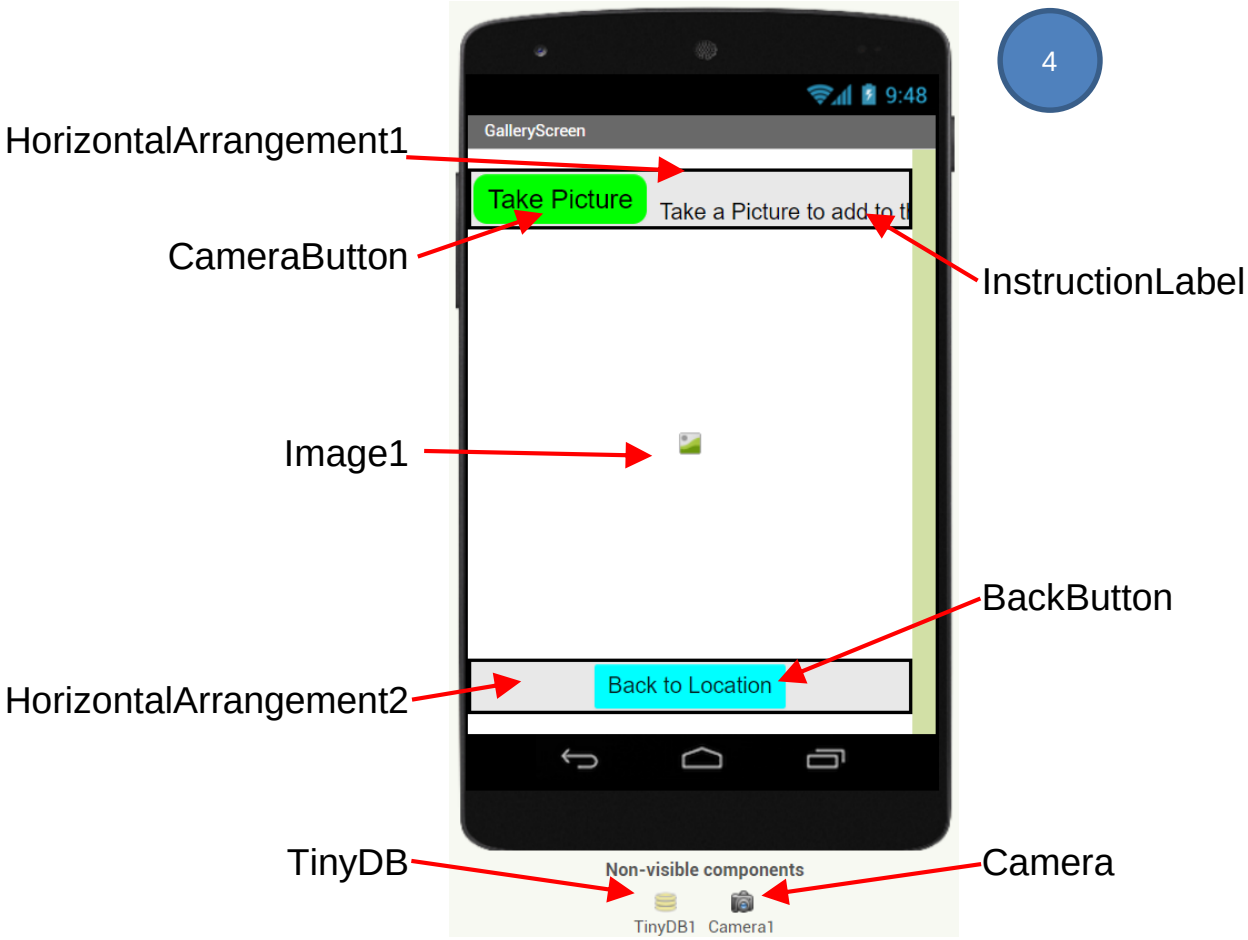

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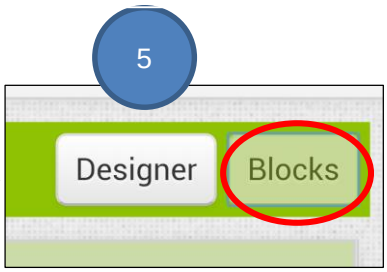
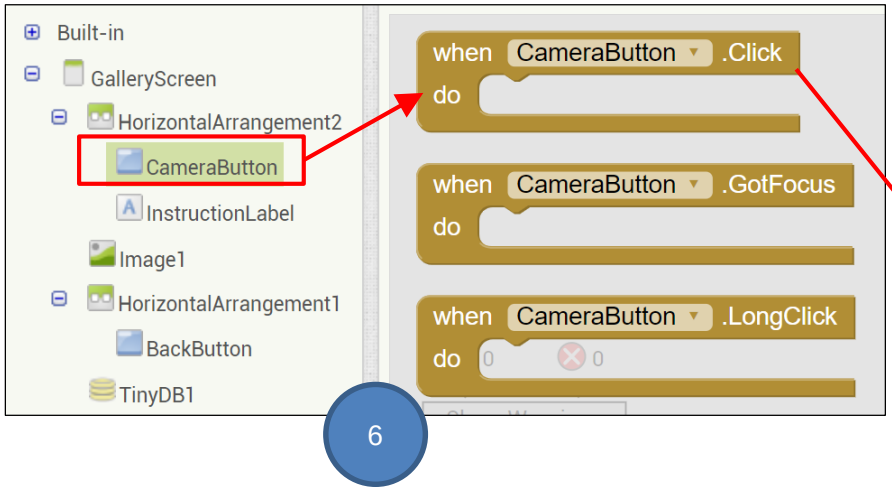
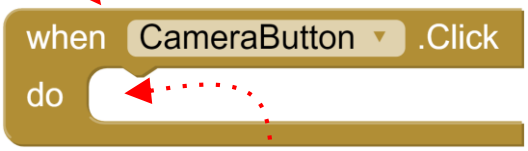
CAMERA BUTTON

❑ Switch to the Blocks Editor.

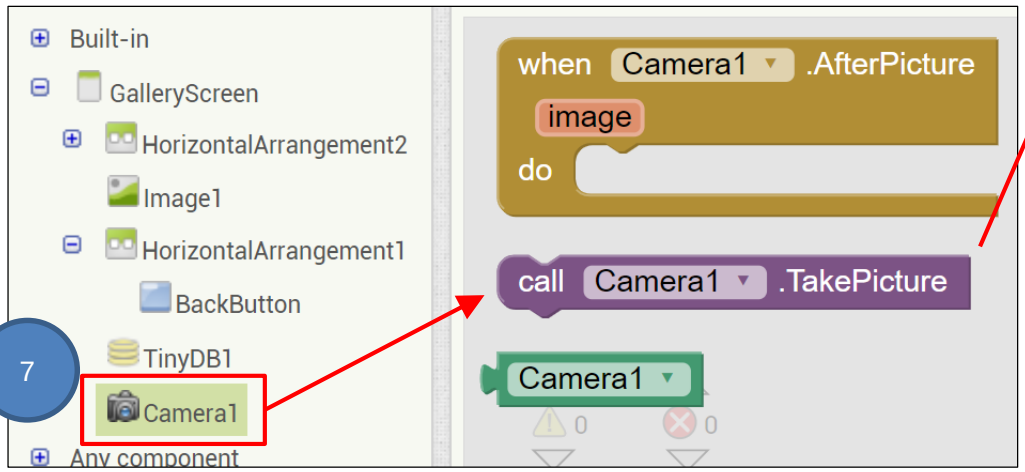




When we click the "Camera" button, the camera should take a picture.



8



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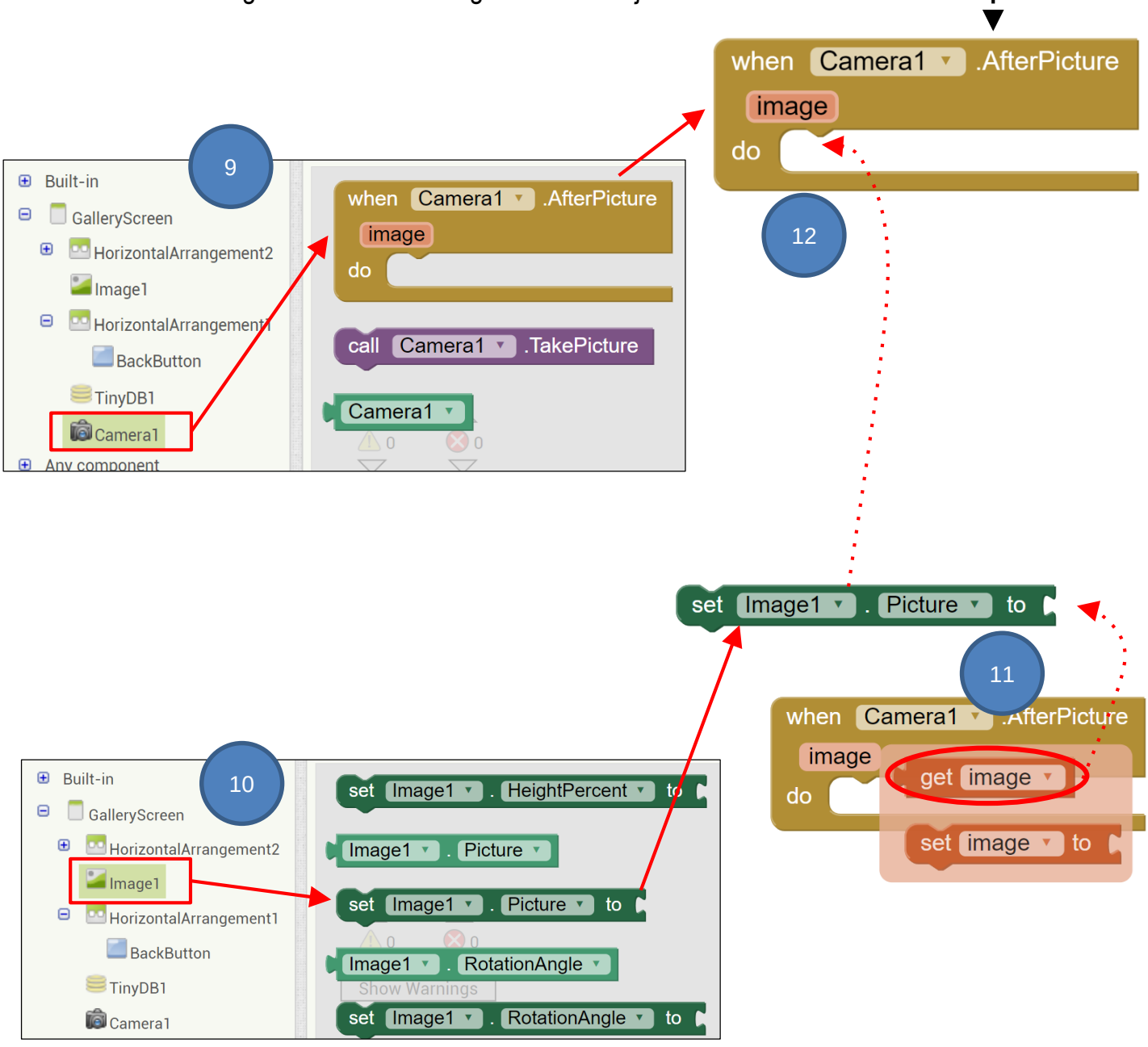
AFTER PICTURE

When a picture is taken, the **Camera.AfterPicture** event is triggered.

- ❑ Set the Image.Picture to the image the camera just took.



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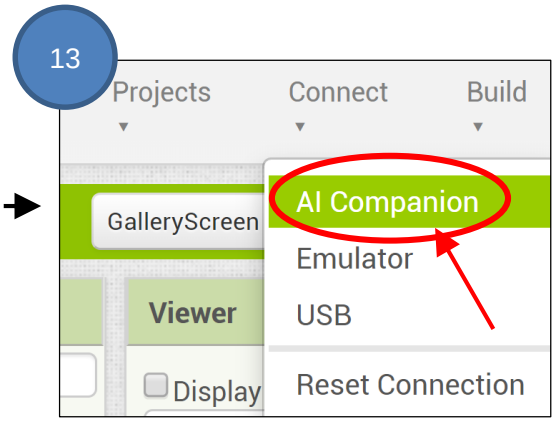
TESTING

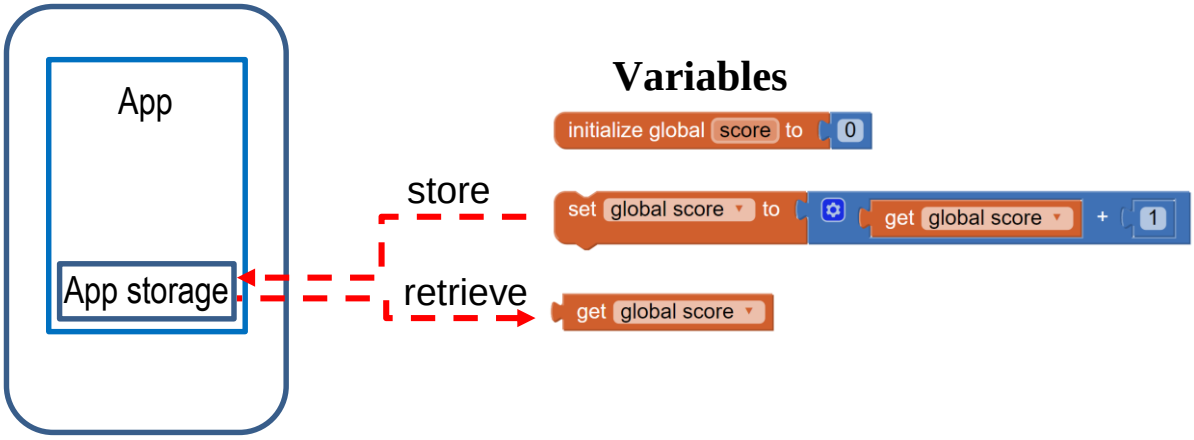
Test the Camera feature with the MIT AI2 Companion app.



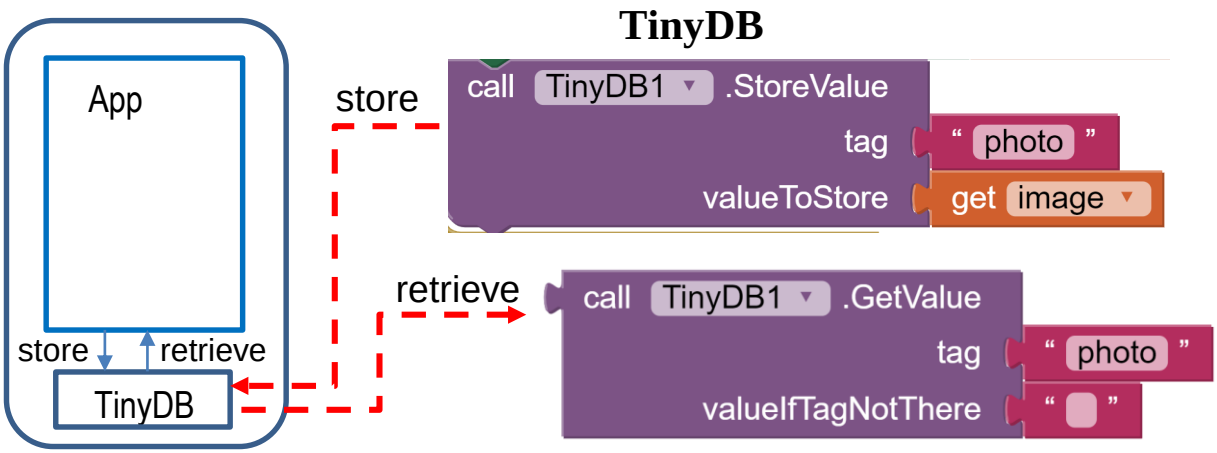
❑ Take a picture and see that the image changes.

TINYDB

In the previous lessons or units, we used variables and lists to store data. But the data is stored in the program's running memory and is lost once you close the program. In other words, the program will not remember the latest value when you reopen it.



However, TinyDB, which stands for "Tiny Database", is a component that stores "persistent" data. So values remain on your phone for use when you run the app again.



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TINYDB

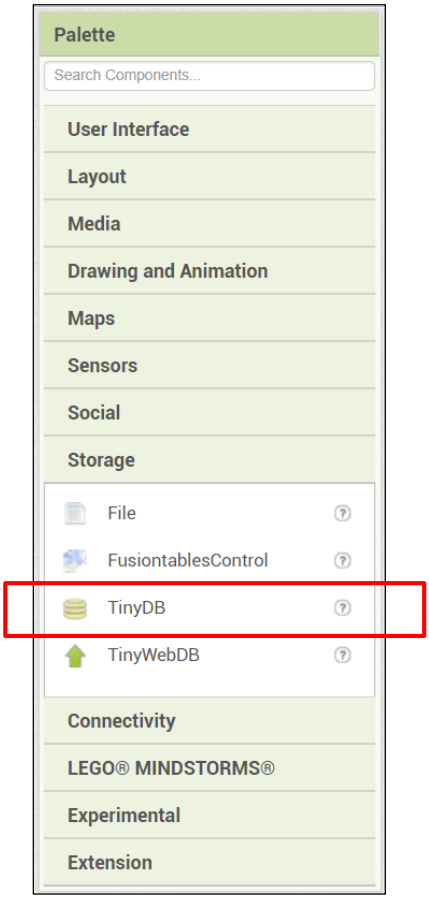
TinyDB has two main functions: **StoreValue** and **GetValue**.

We will use TinyDB to store the names of pictures that users take for the Gallery.

- **StoreValue** stores a value, replacing whatever was in the database before. The name of the value is **tag** and the new value is **valueToStore**.

tag is like a variable name.

valueToStore is like a value of a variable.



- **GetValue** fetches a value from the database that we stored before, by its **tag**. If there's no value stored, then it returns **valueIfTagNotThere**.

valueIfTagNotThere: For example, the first time you open the app, nothing has been saved yet, so GetValue returns a blank text.

CT Tips

TinyDB can store data on your phone. You can retrieve the data after closing and reopening the app.

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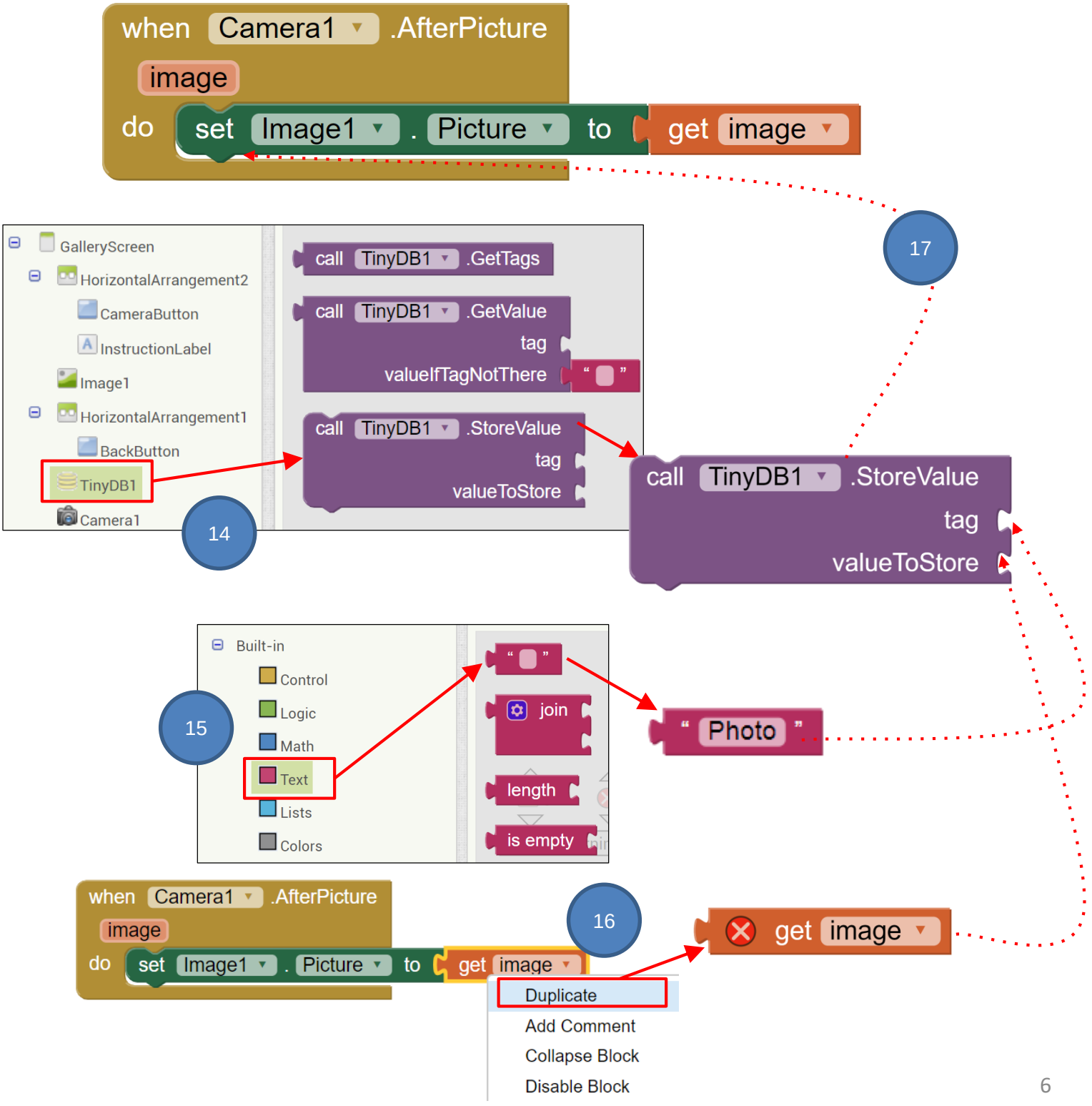
LET'S CONTINUE

- We need to store the image in TinyDB.



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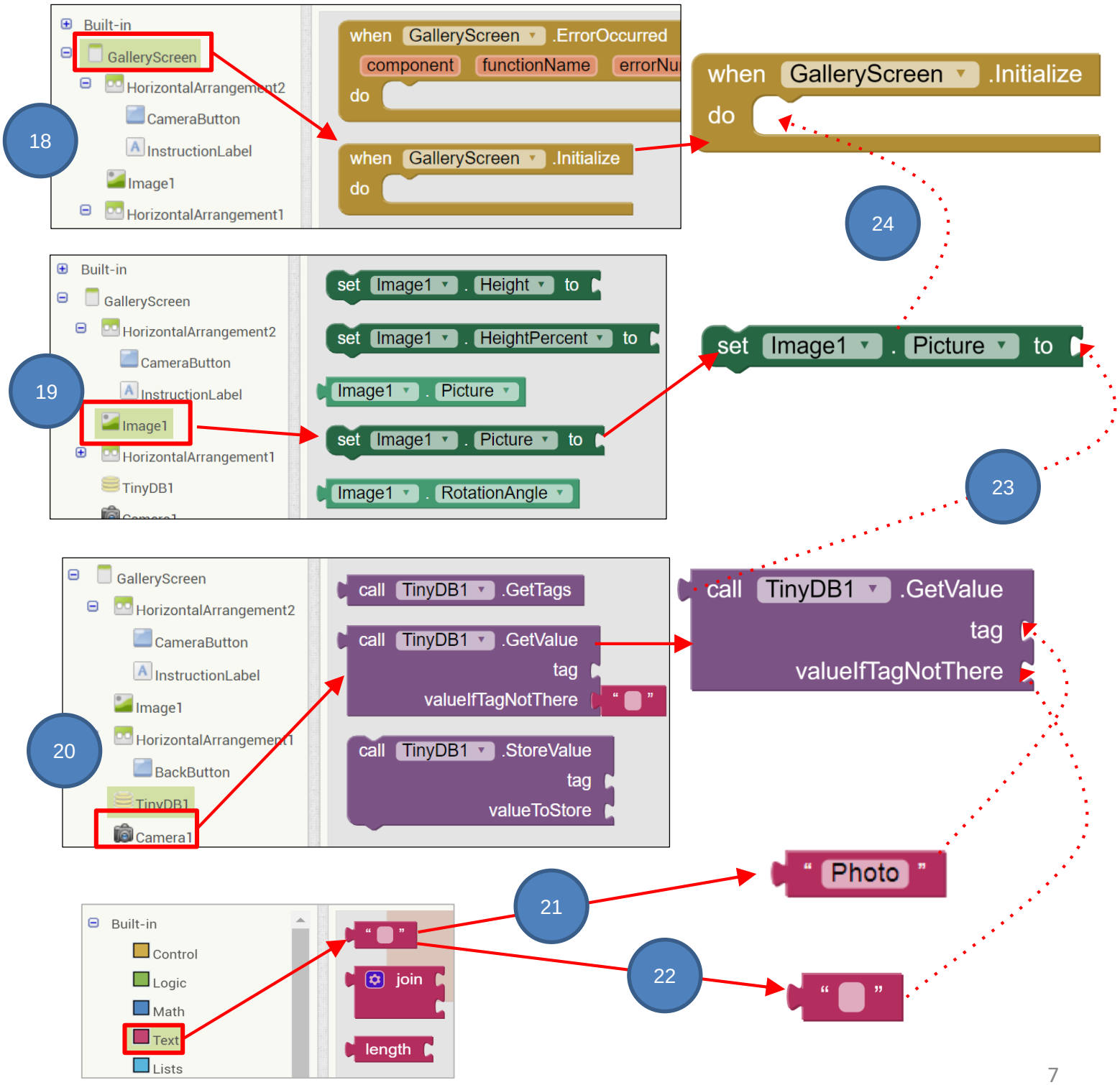
INITIALIZE SCREEN

Because we store the **image** in TinyDB, we need to get it from TinyDB each time we open the screen. Let's do that with the **when GalleryScreen.Initialize** block.



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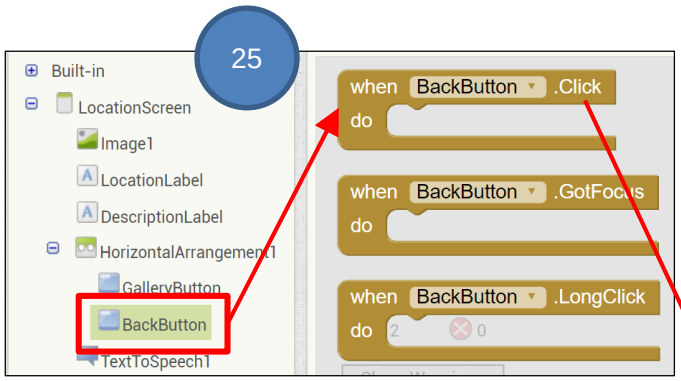
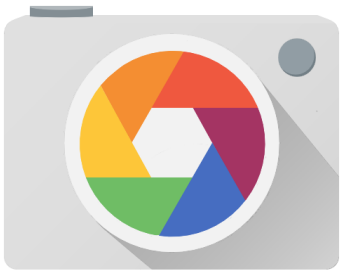
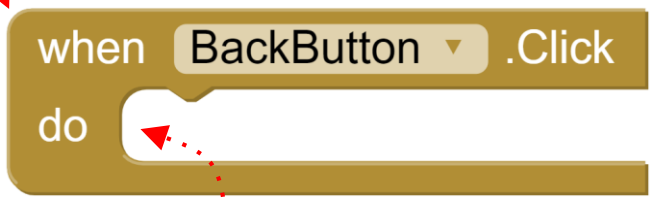
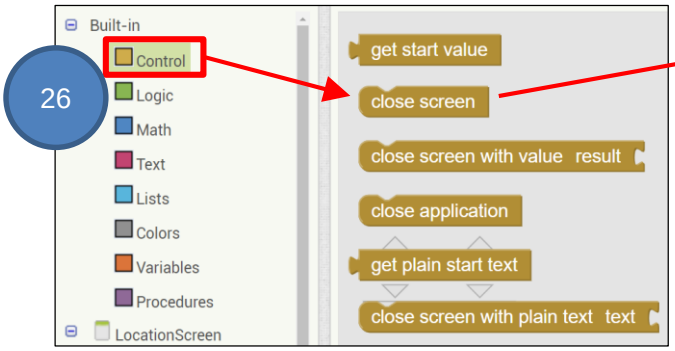
BACK BUTTON









- ❑ Test your app by taking a picture and see if the gallery works!
- ❑ When you close and re-open the app, the picture you took last time should be saved.

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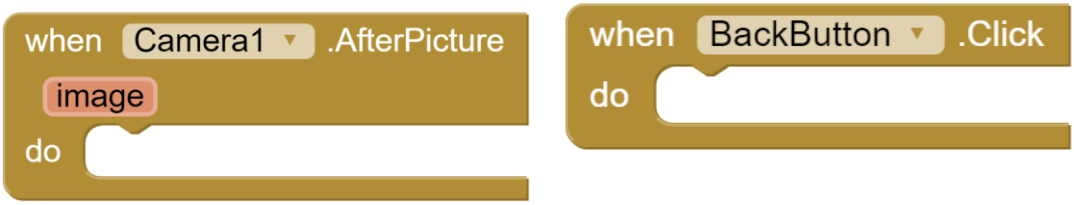
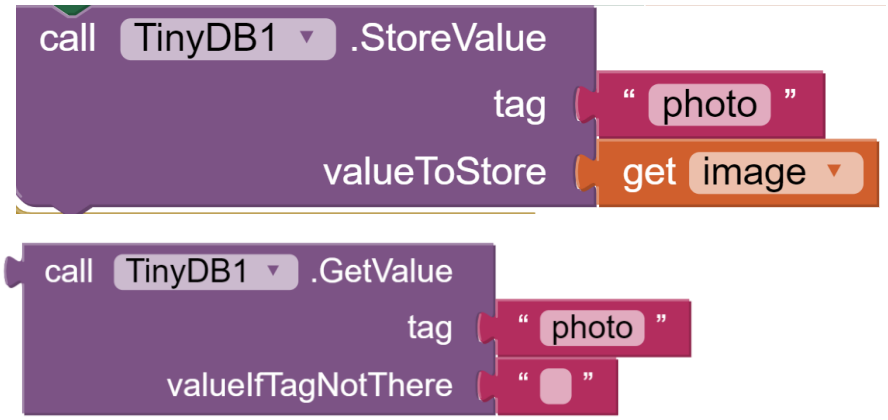
COMPUTATIONAL THINKING CONCEPTS

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

L3U8.1-8.2: Hong Kong Tour Guide
1. Events: 
2. Manipulation of data and elementary data structures: 

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COMPUTATIONAL THINKING PRACTICES

The following are the computational thinking practices used in this unit.

L3U8.1-8.2: Hong Kong Tour Guide
1. Being incremental and iterative: a. Iteratively build a complex app over a series of four lessons
2. Abstracting and modularizing: a. Three parallel lists are used to keep track of location, description and picture information for each landmark
3. Testing and debugging: a. Test that long clicking markers brings up the appropriate location screen b. Test that the gallery can take and save a picture c. Test that picture that is saved in the gallery to TinyDB appears when you run the app again
4. Algorithmic thinking: a. Indexing with parallel lists