CHIANG MAI UNIVERSITY
Bachelor of Science (Software Engineering)
College of Arts, Media and Technology
1st Semester / Academic Year 2019
SE 103 PROGRAMMING LOGICAL THINKING

Lab Assignment 02 : Introduction AppInventor and Variable

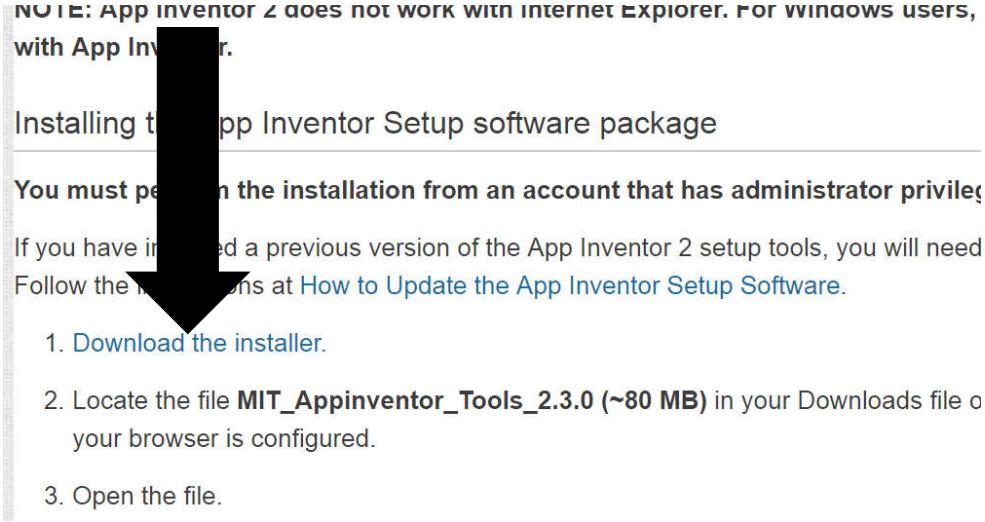
Name ..... Student ID ..... Section.....

Objectives:

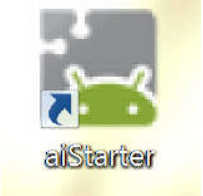
1) The student can create a simple android application using AppInventor.
2) The student can create a variable and use the value in the variable.

Install the emulator

1. Download the emulator from website http://appinventor.mit.edu/explore/ai2/windows.html

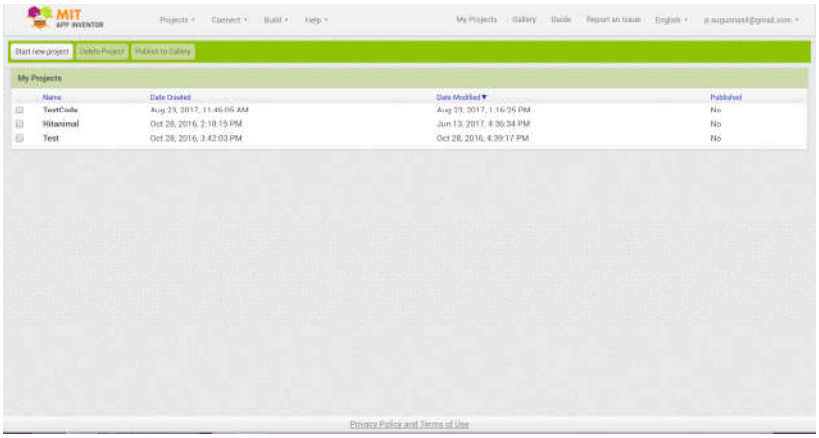


2. Locate the file and open it as administrator.
3. Follow the instruction. (Do not change the installation location)
4. The following icon will appear on desktop.

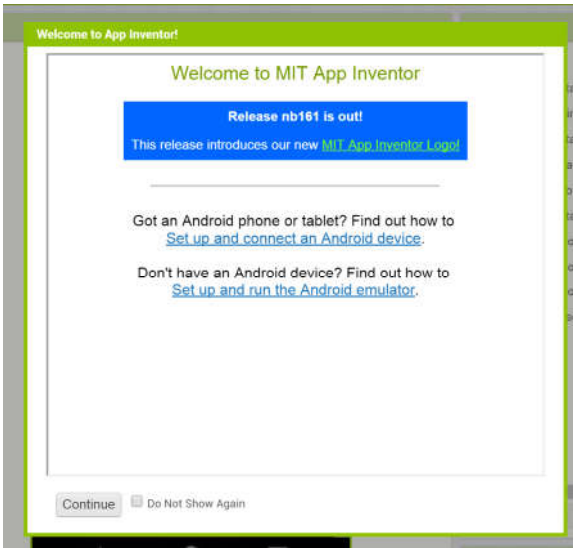


Application Development

1. Open the website http://ai2.appinventor.mit.edu/?locale=en

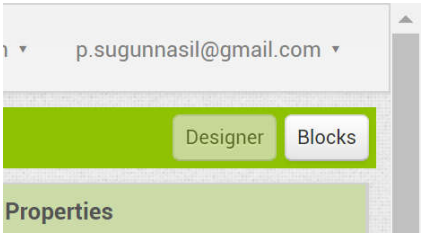


2. The following page will pop up which will display the update of the current version. You have to click as continue.

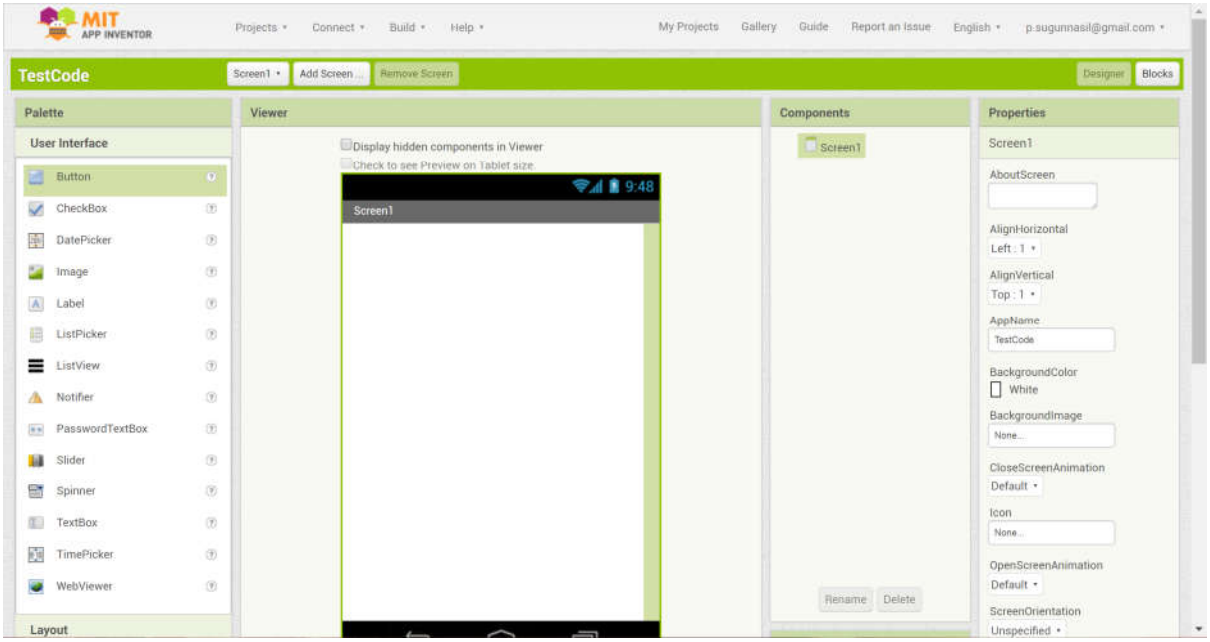


There are 2 types of screen.

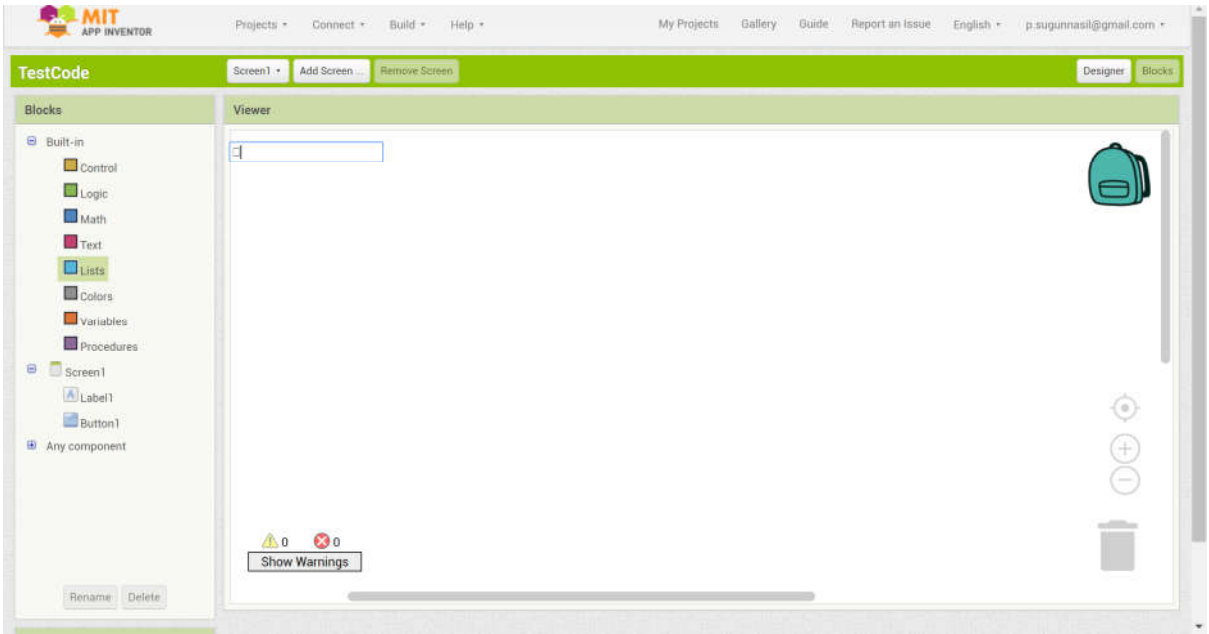
- Design view – This screen allows user to create the interface by dragging the user interface from the panel on the left to the interface canvas on the right. You can switch to design view by clicking at the at the top-right of the screen.
- Block view – This screen allows user to design the algorithm for the operation. You can switch to block view by clicking at the at the top-right of the screen.



3. The following screen is the design view.

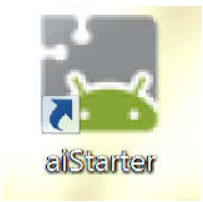


4. The blocks screen is as follows

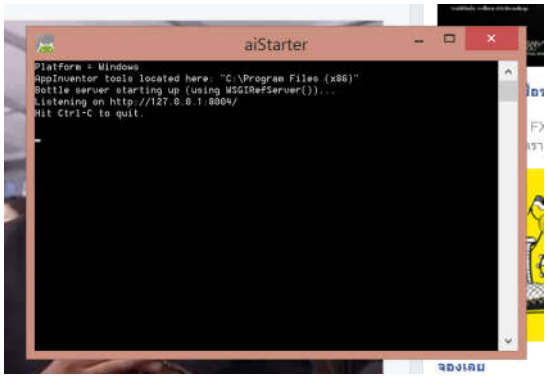


Run the application

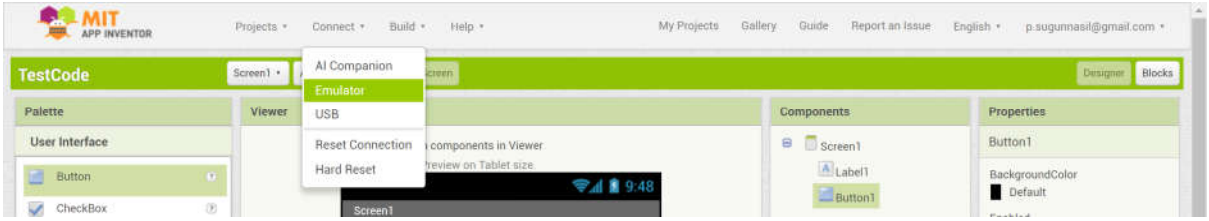
1. Open the emulator by clicking at the icon. Normally, the emulator is automatically opened when you access the application development page.



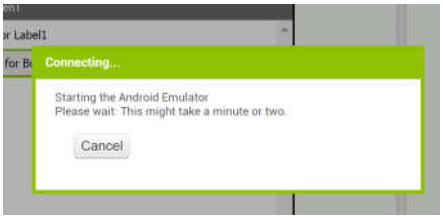
2. The program will prepare the emulator for running the android application on your computer.



3. Click at connect and choose emulator. (You must have developed the application before running it!!!!)

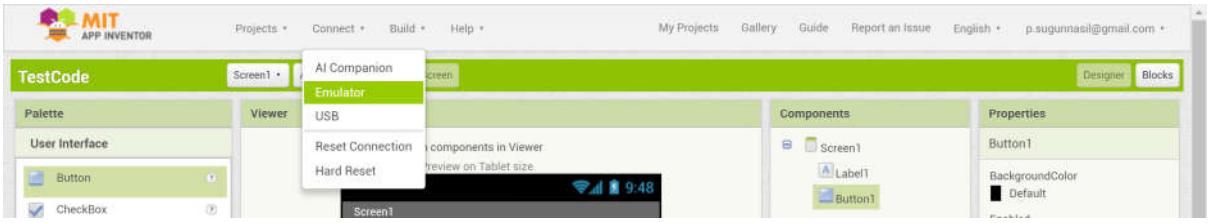


4. The website will connect to the emulator.



Remark : If the program needs to update. Just update it. The detail instruction is given below.

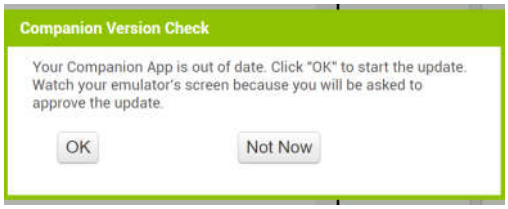
5. Then, you can use the application on the emulator clicking at connect and choose emulator.



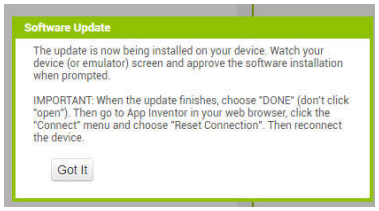
6. The website will connect to the emulator.

Emulator Update

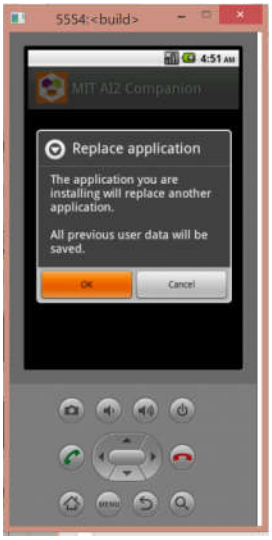
In some case, the emulator needs to update. You have to click "OK"



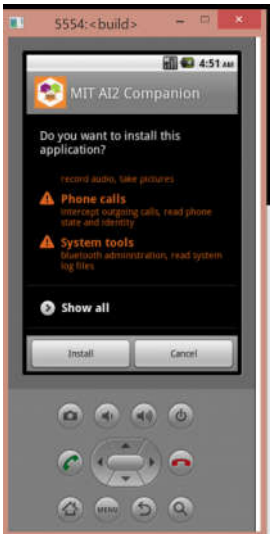
And follow the instruction.



1. Click OK to replace the application with the new version.



2. Install the application.



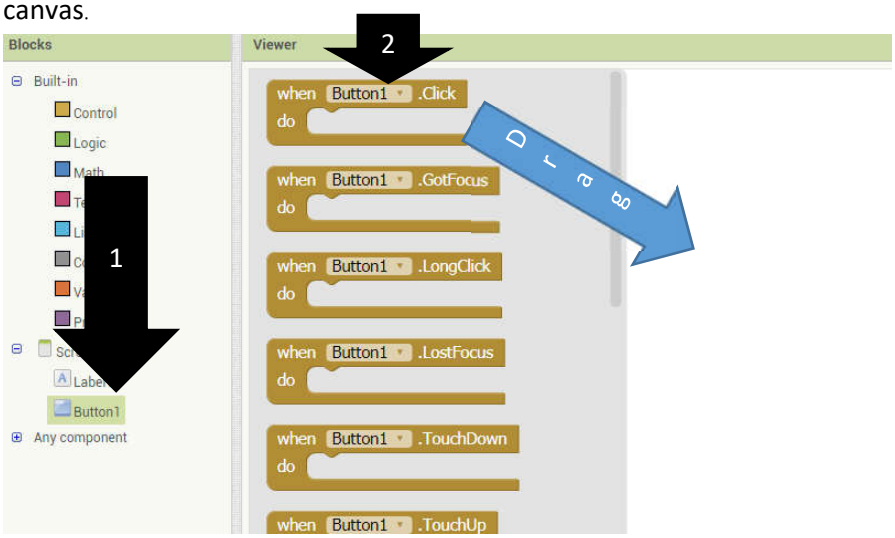
When it finishes the installation, do not close the emulator. On your browser, you need to click "Connect" and choose "Reset Connection".

Example 1

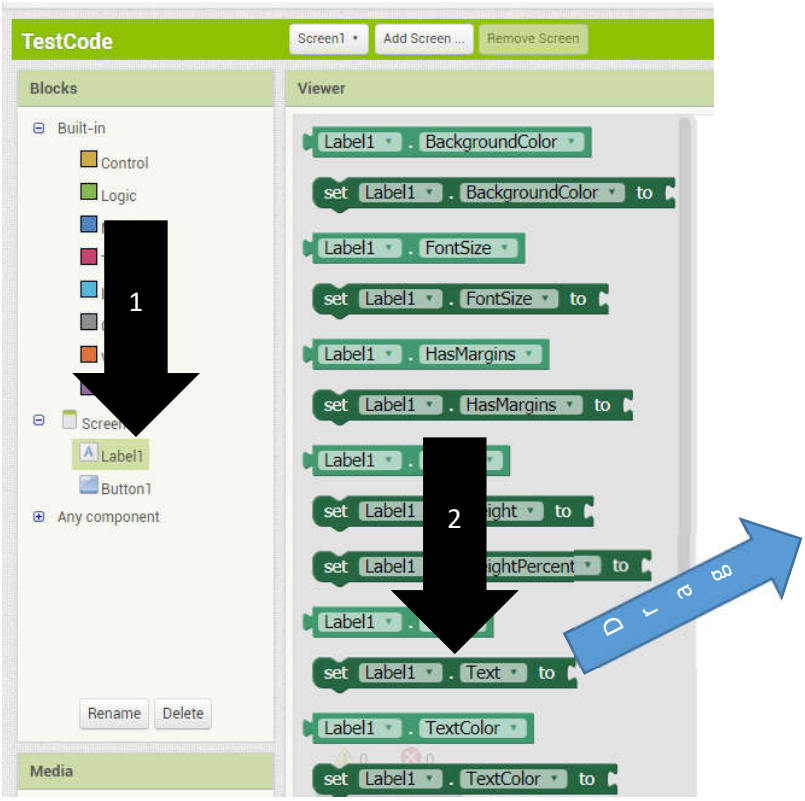
This example aims to demonstrate how to use the appinventor to develop an application. The program will change the text on the label to the new one.

1. In design view, you have to drag 1 label and 1 button. You can see that the name of each component is automatically assigned.

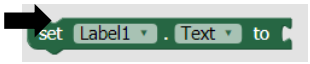
2. Go to Block view.
   a. Click at Button1 menu in Screen1 menu, drag the Click event (Notice the color) to the canvas.



b. In Screen1 menu, drag the set-text operation of the Label1 to the interface canvas. Put the set text operation in the Button1 Click event. Make sure that the slot is fitted.

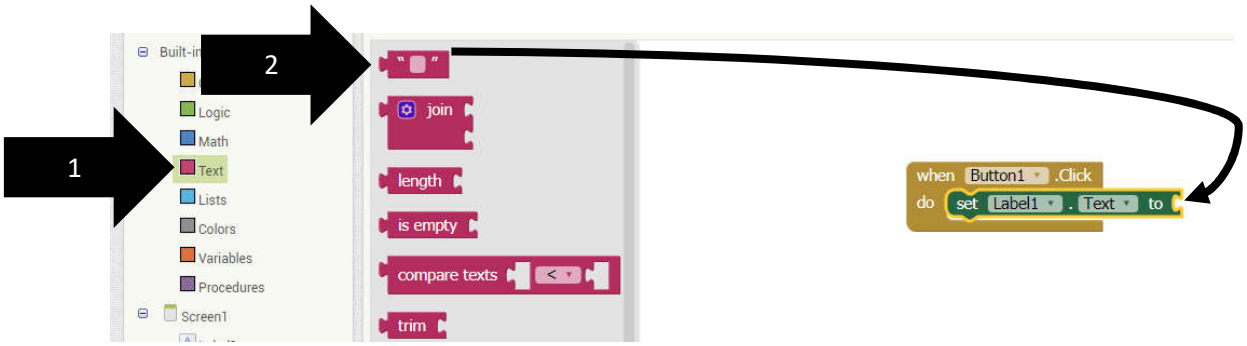


Look at the interlocking symbol of the set-text operation and the Click event

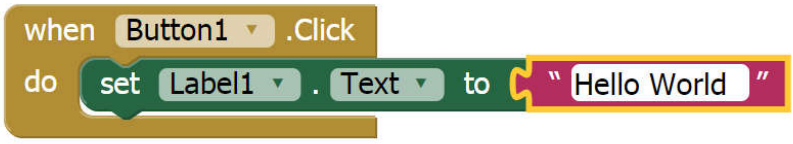


You have to make sure that the symbols are matched with each other. The symbol is the guideline for you to use the operation. Only the operations whose symbols are matched can be used together.

c. Drag the empty text from Text menu in Built-in menu to the set-text operation of the Label1. Make sure that the



d. The result is as follows.



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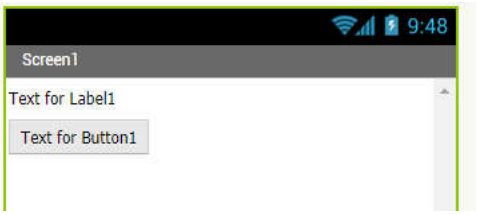
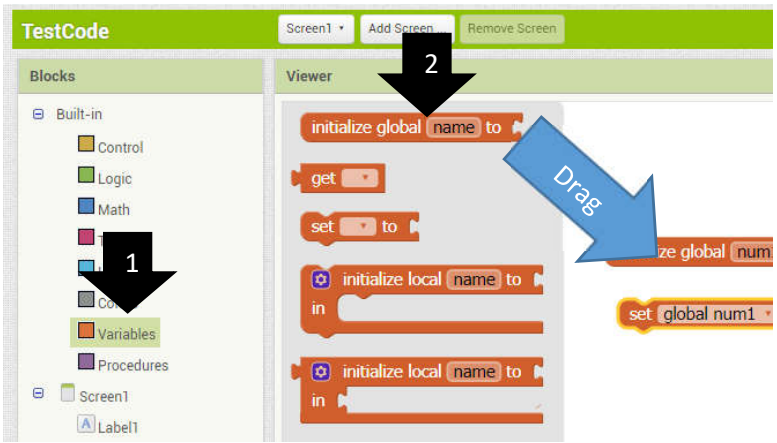
Example 2 : Variable Initialization

This example aims to demonstrate how to create the variable and initialize the value.

1. Use the following screen (the same one as the previous example)

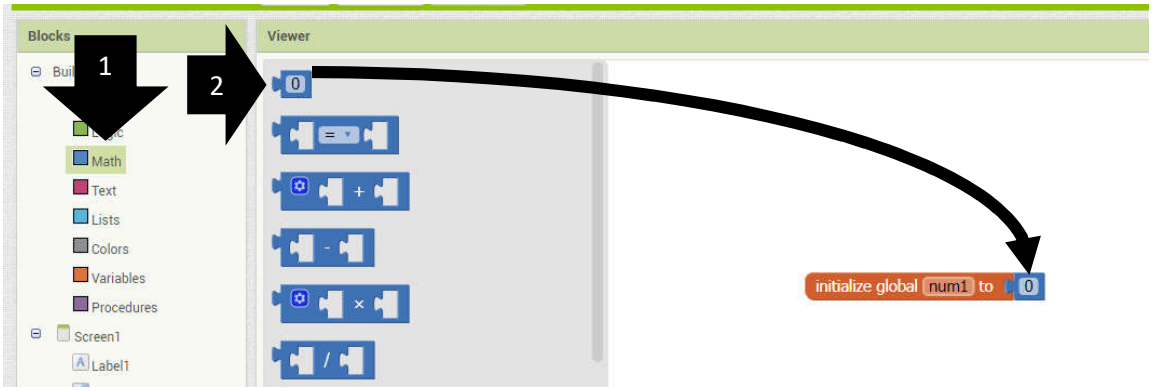


2. Create the variable by dragging initialize variable from the variable and assign the name as num1.



The following symbol will appear.

3. Assign the value to the variable num1. (Look at the color!!!!!!!!)



4. Assigning the new value to the num1 by clicking at the value and inputting the new value.

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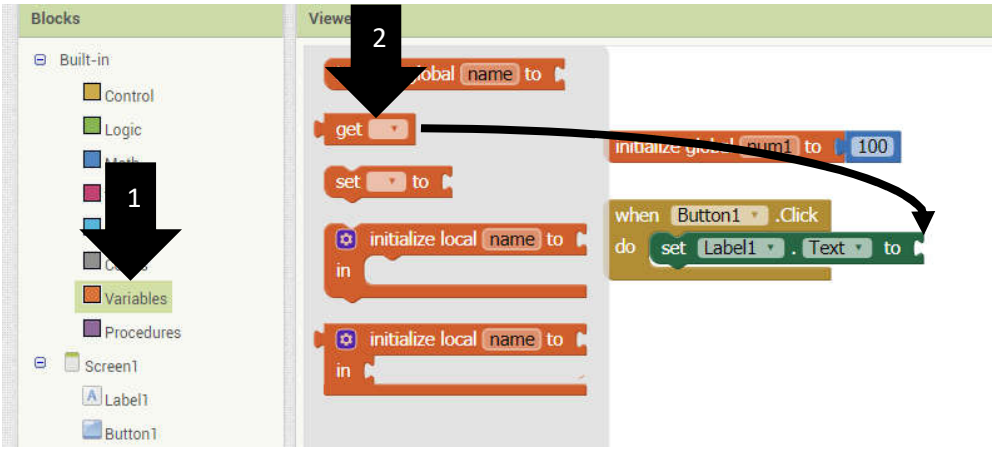
Example 3 : Variable Usage

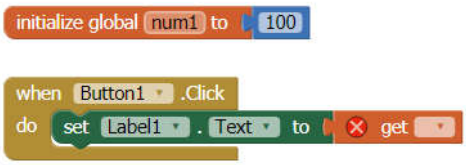
This example aims to demonstrate how to use the value in the variable.

1. Given the project from Example 2.
2. Create the following block

3. To get the value from the variable, you need to use the get operation.



The screen should be as follows.



4. Indicate that the program has to use the value from variable num1 by clicking at drop-down box.

Run the program and show the TA.

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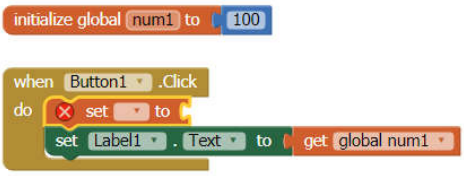
Example 4 : Variable Assignment

This example aims to demonstrate the value assignment to the variable.

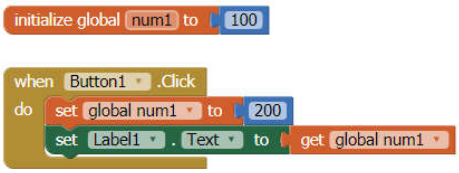
1. Given the project from Example 3.
2. To set the value to a variable, drag the get operation to the block screen. In this example, you have to put the drag operation in the Button Click event and put it before the text-set operation.

The screen should be as follows.



Remark : Ignore the x symbol and you may be able to guess that the set operation need the value (Look at the slot of the block)

3. Drag the value from math and set the value to 200.



Run the program and show it to the TA.

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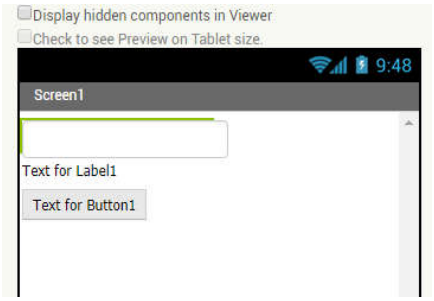
Example 5 : Text box manipulation

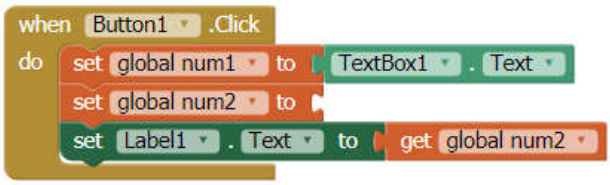
This example demonstrates how to access the value from the text box and use it.

1. Use the screen from example 4 and add a new text box. The screen should be as follows.

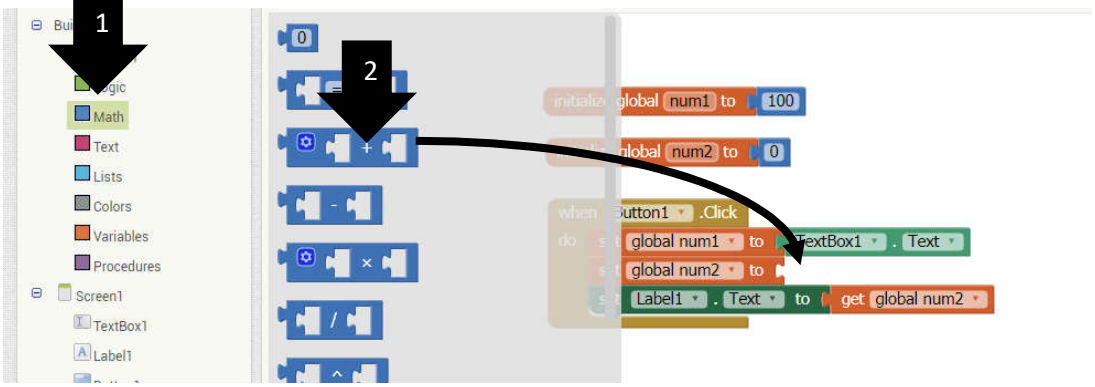


2. Create a new variable name num2 and set the value to 0.

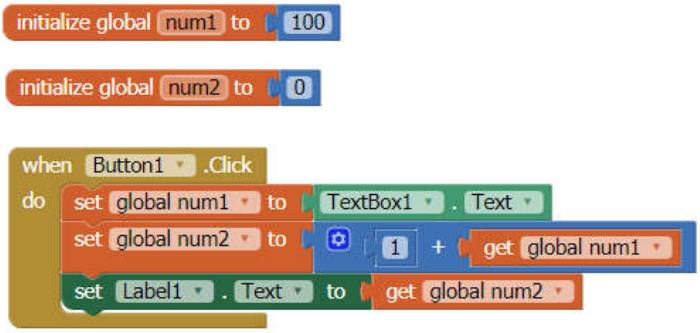
3. Create a set operation after the set and set it to change the num2



4. Go to math and get the addition symbol out.



5. Set the operand of the addition as shown in the following picture.



Run the program and show it to the TA.

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Problem set

1. Write a program to receive 2 value and display the addition of the inputs.

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2. Write a program to receive 2 value and display the difference of the inputs.

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3. Given the following problem statement

Write a program to receive the total price and calculate the net price (total price + tax). The tax is 7%. For example, the total price is 100, the net price is 107.

3.1 design the interface that can receive all of the input and provide a way to display output.

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3.2 Run the program and display to the TA

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