

Change Counter App

In this tutorial, you will create the *Change Counter* app. The app displays images of four coins, having the values 5 cents, 10 cents, 25 cents, and 50 cents. Additionally, the app will have a global variable named *Total* that starts with the value 0. Each time the user clicks on a coin image, the value of that coin is added to the *Total* variable, and then the value of the *Total* variable is displayed.

[Figure 3-79](#) shows the app's screen in the Viewer with the names of all the components.

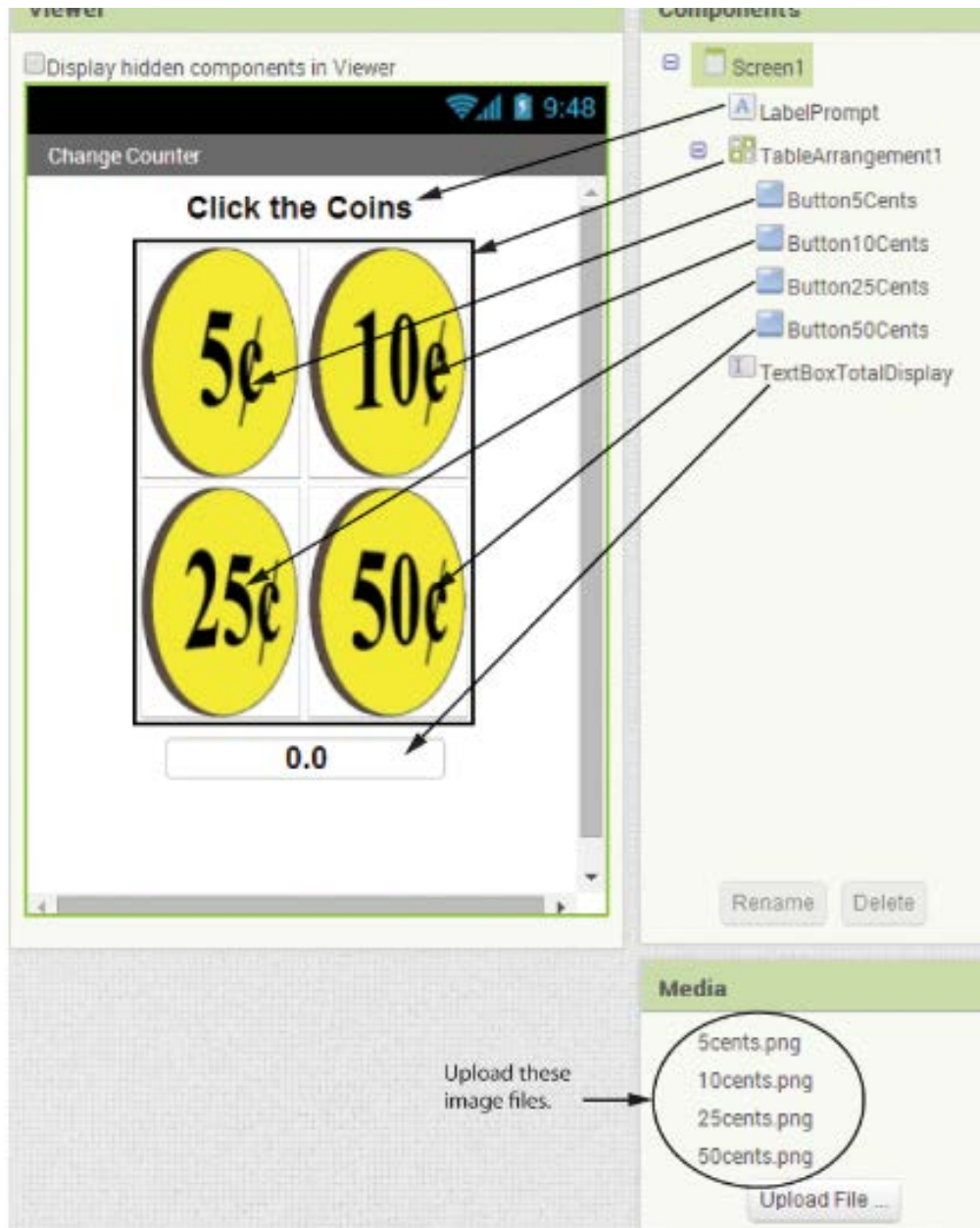


Figure 3-79 The Change Counter App

Step 1: Start a new project named ChangeCounter.

Step 2: Make sure you have downloaded the media files from the Coins folder that contains several .png files. Use the Media column to upload the following image files: 5cents.png, 10cents.png, 25cents.png, and 50cents.png.

Step 3: Set up the app's screen with the components shown in Figure 3-79.

Refer to Table 3-6 for the relevant property settings for each component.

Component	Relevant Property Settings
Screen1	AlignHorizontal = <i>Center</i> Title = <i>Change Counter</i>
LabelPrompt	FontBold = <i>checked</i> FontSize = 20 Text = <i>Click the Coins</i> Width = <i>Automatic</i> Height = <i>Automatic</i>
TableArrangement1	Cols = 2 Rows = 2 Width = <i>Automatic</i> Height = <i>Automatic</i>
Button5Cents	Text = <i>clear</i> Image = <i>5cents.png</i>
Button10Cents	Text = <i>clear</i> Image = <i>10cents.png</i>
Button25Cents	Text = <i>clear</i> Image = <i>25cents.png</i>
Button50Cents	Text = <i>clear</i> Image = <i>50cents.png</i>
TextBoxTotalDisplay	Enabled = <i>unchecked</i> FontBold = <i>checked</i> FontSize = 20 Text = <i>0.0</i> TextAlignment = <i>Center</i> Width = <i>Automatic</i> Height = <i>Automatic</i>

Step 4: Open the Blocks Editor and create the global variable initialization block shown in Figure 3-81. This creates a global variable named Total and gives it an initial value of 0. The Total variable will be used to keep the total value of the coins that the user clicks.

As a reminder, these are steps to follow to create the variable initialization:

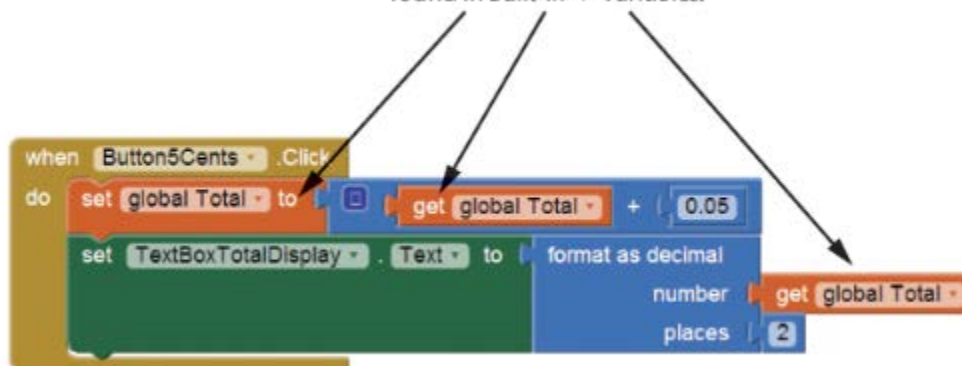
- Go to the Built-In section of the Blocks column, click Variables, and then select the initialize global name to block.
- Click the word name that appears on the block and change the name to Total.
- Go to the Built-In section of the Blocks column, click Math, and then click the number block (0). Plug the block into the socket of the Total variable initialization block.

Step 5: Now you will program the Click event handlers for the buttons, starting with Button5Cents. When the Button5Cents component is clicked, it will do the following:

- It will add 0.05 to the Total variable.
- It will display the value of the Total variable, rounded to two decimal places, in the TextBoxTotalDisplay component.

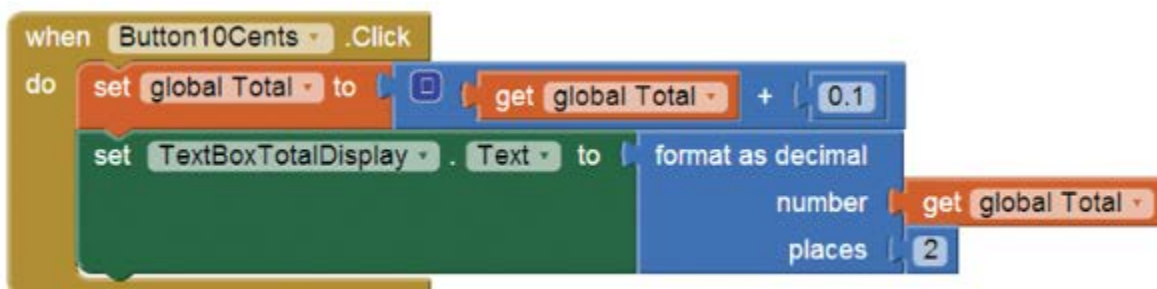
Variables drawer of the Built-in section of the Blocks column.

These set and get blocks are found in Built-in -> Variables.



Step 6: Now you will program the Click event handler for the Button10Cents. When the Button10Cents component is clicked, it will do the following:

- It will add 0.10 to the Total variable.
- It will display the value of the Total variable, rounded to two decimal places, in the TextBoxTotalDisplay component.



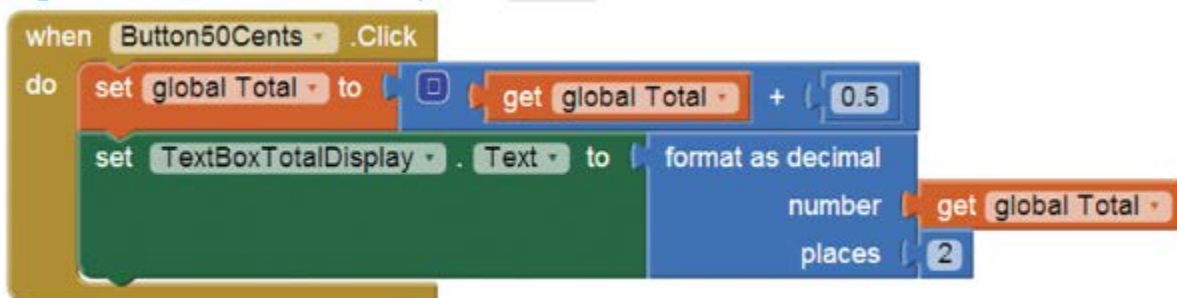
Step 7: Now you will program the Click event handler for the Button25Cents. When the Button25Cents component is clicked, it will do the following:

- It will add 0.25 to the Total variable.
- It will display the value of the Total variable, rounded to two decimal places, in the TextBoxTotalDisplay component.



Step 8: Now you will program the Click event handler for the Button50Cents. When the Button50Cents component is clicked, it will do the following:

- It will add 0.50 to the Total variable.
- It will display the value of the Total variable, rounded to two decimal places, in the TextBoxTotalDisplay component.



Step 9: Test the app in the emulator or with a device. Click the coin images in any order you wish. The total shown on the app's screen should update by the correct amount each time you click a coin.