Maths GameApp

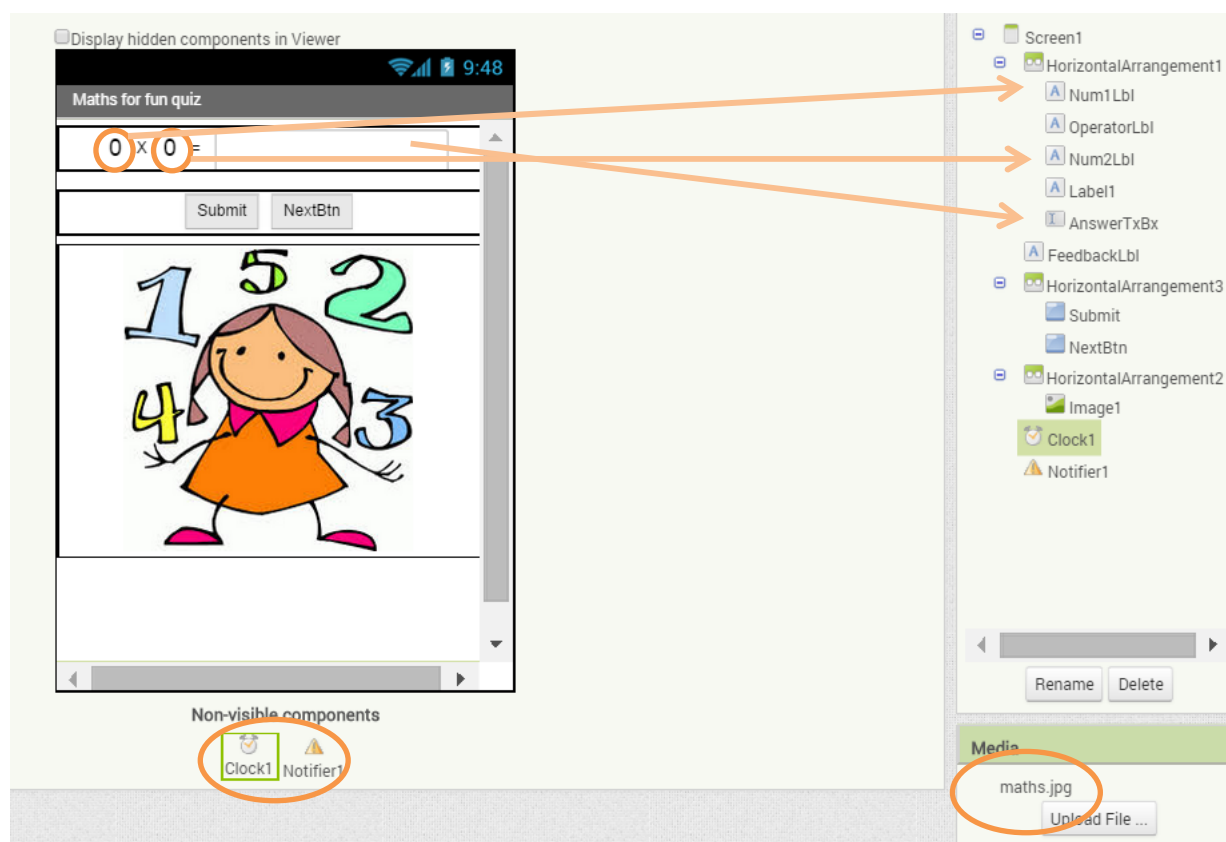> **Create a new App inventor project – name it MathsGame**

Set up the Components

Use the component designer to create the interface for MathGame. When you finish, it should look something like the snapshot below (more detailed instructions below the snapshot).

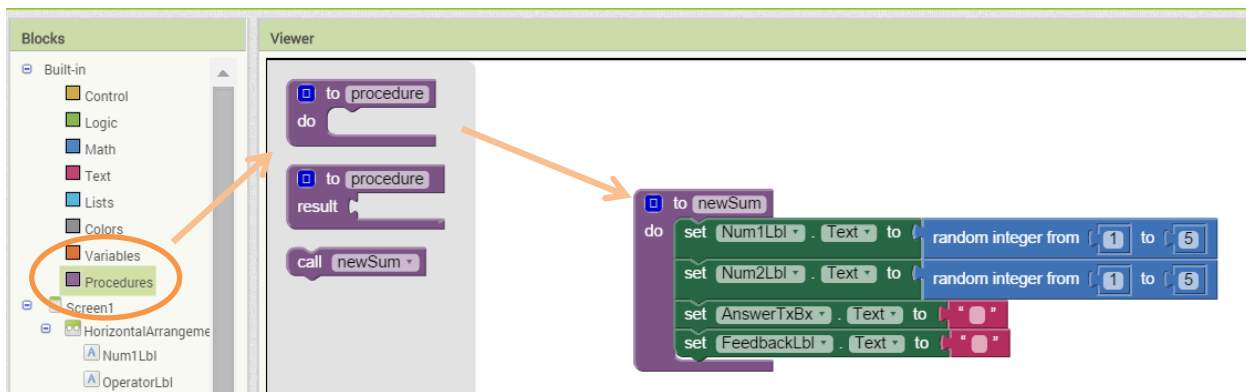Note the **Clock** and **Notifier** (non-visible components)

Creating variables

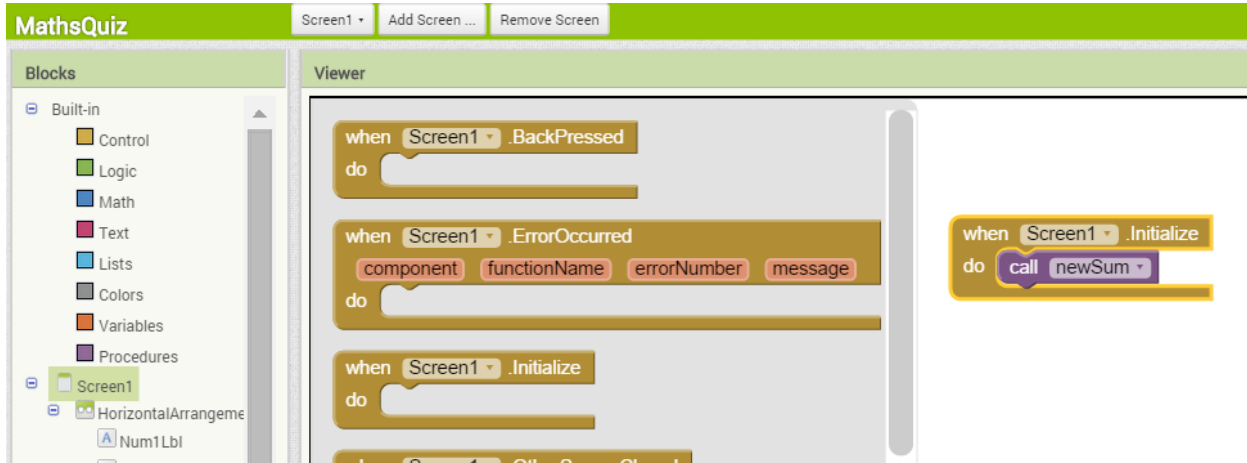Create a variable to store the game score
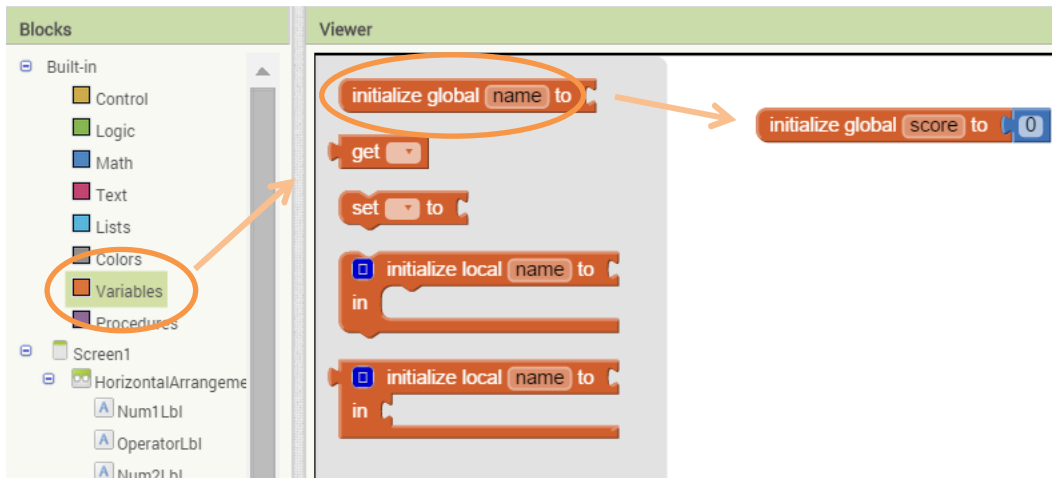
Setting the game up – creating a procedure to show the sum

Each time we need to show a new sum on screen we need to generate a random number for the first and second number. We'll create a procedure to group these lines of code (actions) together.

Setting the initial screen

We need to set up the first sum – so we can use our **newSum** procedure. Handy !

Once you put these blocks together, connect your phone and test this feature out!

The submit button

When clicked we need to check the answer in the TextBox (entered by the user) and compare it with the expected answer. To do this we'll use an IF ..ELSE statement. If TRUE we let the user know the answer was correct and also update the score otherwise(FALSE) we let the user know the answer was incorrect.
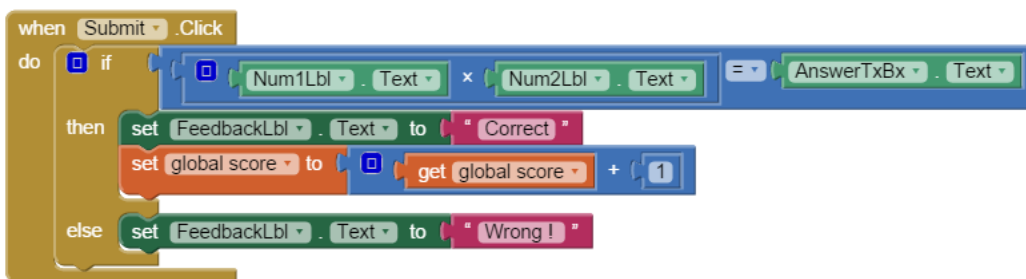
Once you put these blocks together, connect your phone and test this feature out!

The next button

When the user options to move to the next question, we need to update the **sum. (There's that procedure again!)**

```
when  NextBtn .Click
do    call  newSum
```

Once you put these blocks together, connect your phone and test this feature out!

Adding a timer

Ok this game could go on for a while ! Let's add a timer so that after 20 seconds the game finishes. When complete we'll show the score in a popup like window and ask if the user wants to play again. If yes then we can reset the score and show a new sum and if not we'll quit the application. We'll need a **Clock** and a **Notification** component for this.

```
when  Clock1 .Timer
do    set  Clock1 . TimerEnabled  to  false
      call  Notifier1 .ShowChooseDialog
                           message   get  global score
                              title  " Time up "
                        button1Text  " Play again "
                        button2Text  " Quit "
                         cancelable   false
```

```
when  Notifier1 .AfterChoosing
      choice
do    if    " Quit "  =  get  choice
      then  close application
      else  set  Clock1 . TimerEnabled  to  true
            set  global score  to  0
            call  newSum
```

Don't forget to add an icon to the app.

Complete Program

Here's the complete **Maths Game** program.

Possible improvements

1. Change the time
2. Add a sound when the user answers correctly and another sound if wrong!
3. Display the correct answer if the user get a question wrong
4. Make it more difficult – e.g. time tables 1 – 12.

5. If the user keeps hitting the submit button with a correct score entered in the answer text box the score is increased every time. Can you fix this bug?