myFlowlab™

STEM DIGITAL STEM PROGRAM

# 4 HOURS Project Based Learning SERIES

## Activities With LEDs

Revision 1.1

Activity #1 – Downloading FlowLogic 6 Version 3.6

Skip this activity if you already installed FlowLogic 6 into your PC

# FlowLogic 6

## Download

1. Go to

   *www.myflowlab.com*
2. *Click Download on Main Page*
3. *Click Download on Download Page – FlowLogic 6 Ver. 3.6*
4. *Click the Downloaded file to install FlowLogic 6 Version 3.6 into your computer*

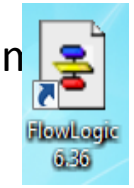
# FlowLogic 6

## Installing Arduino USB Driver

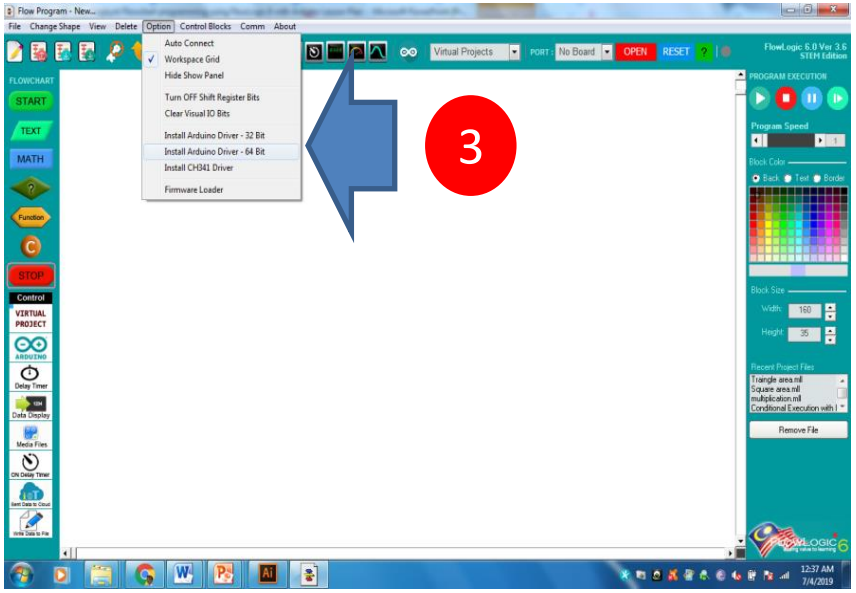
Activity #2 – Installing Arduino USB Driver

Skip this activity if you already installed the driver to your PC

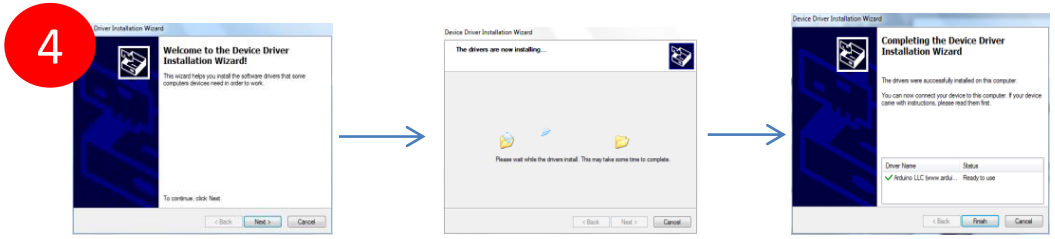
1. Launch FlowLogic 6 Version 3.6 from your PC Desktop




2. *From the menu, click 'Option'*
3. *Select Install Arduino USB Driver*
   *Select either 32 Bit or 64 Bit*
4. *The USB Driver Installation window Should appear as shown below, if NOT, Exit FlowLogic 6 and Run it as Administrator.*




*Right click on FlowLogic 6 desktop Icon and Select "Run as Administrator from the pop-menu*



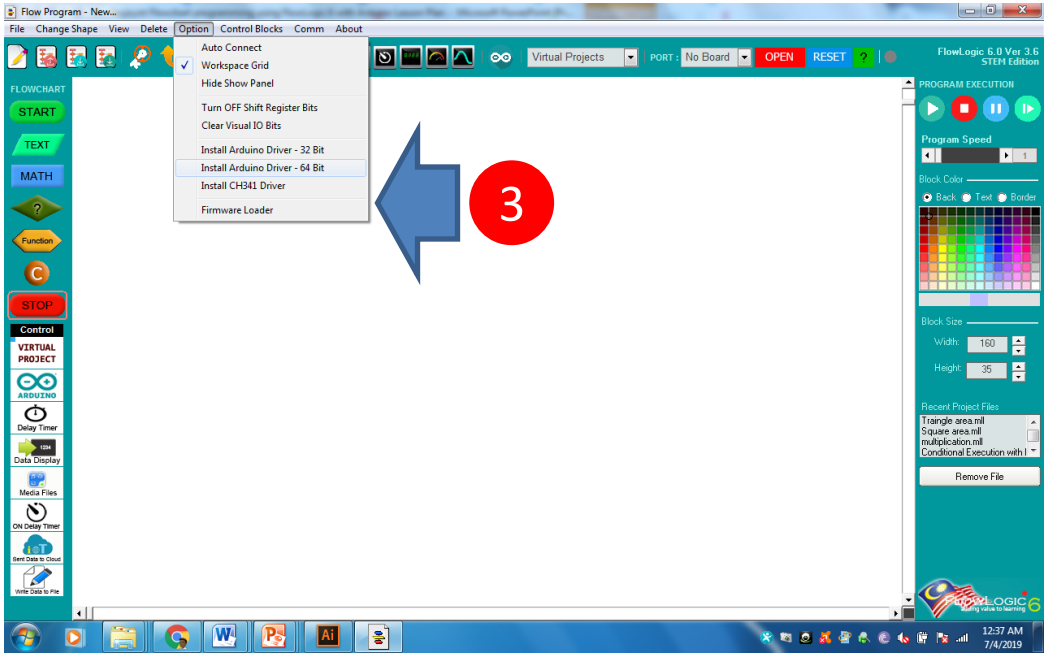
# FlowLogic 6

## Companion Firmware upload

## Activity #3 – Downloading FlowLogic 6 Version 3.6

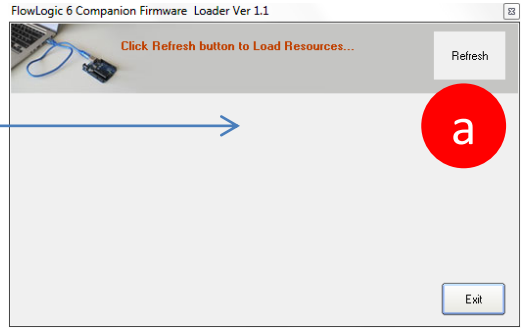
Skip this activity if your Arduino is already activated for FlowLogic 6

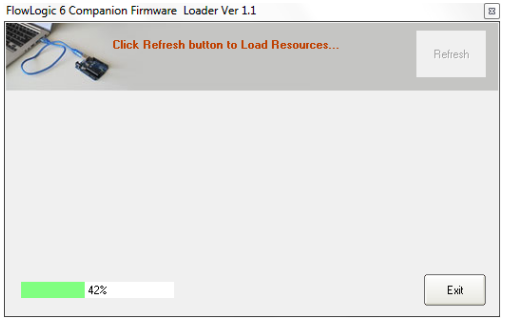
1. Launch FlowLogic 6 Version 3.6
2. *From the menu, click option*
3. *Select Firmware Loader*
4. *The Firmware Loader window Should appear as shown*

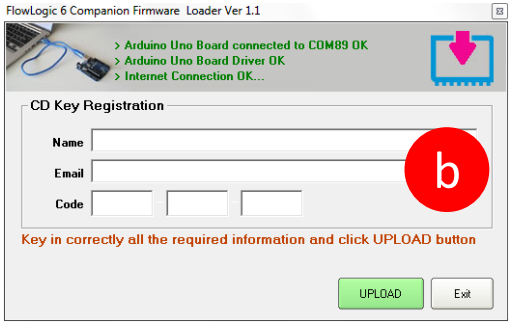



*a. Click Refresh button to connect the Arduino Board*

*b. Fill in your Name, email and valid **Access Code** that you have purchased and click Upload button*



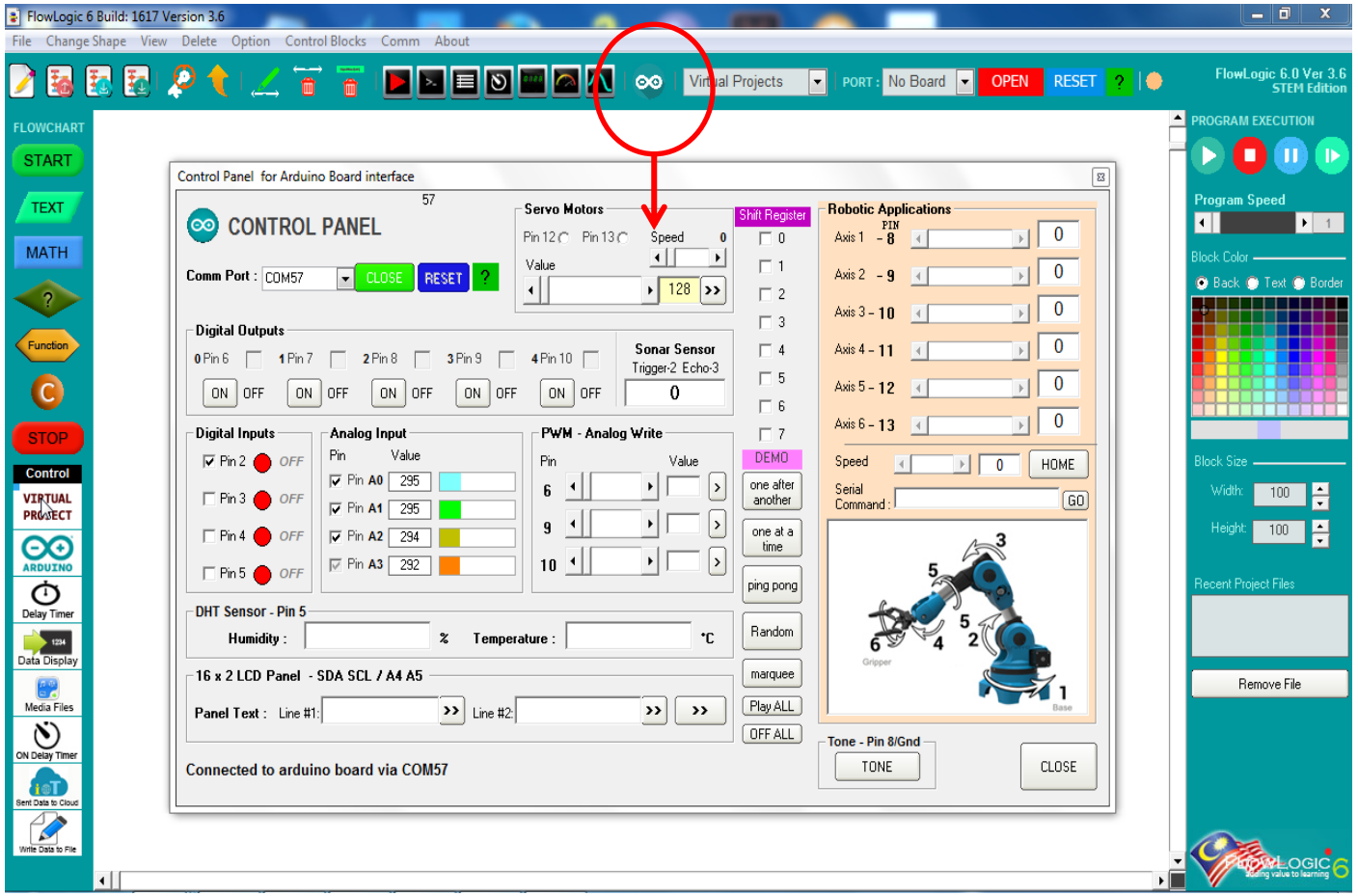



# TESTING AND DEBUGGING

## ARDUINO UNO board

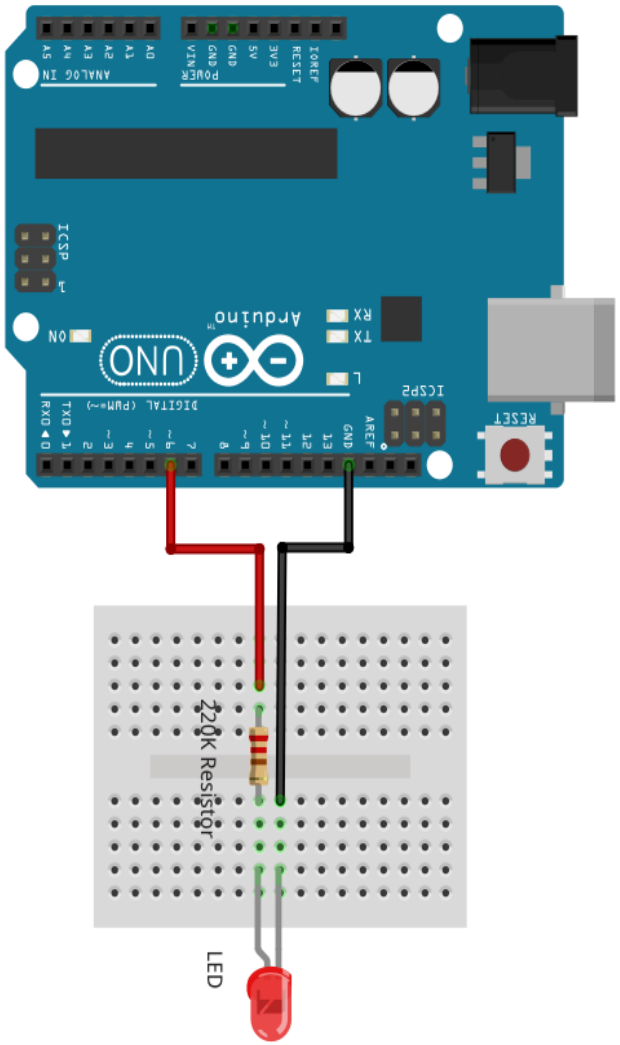
**Use this tool to test your prototype to ensure connections and Components functionality are corrects before building algorithm/ Programming**

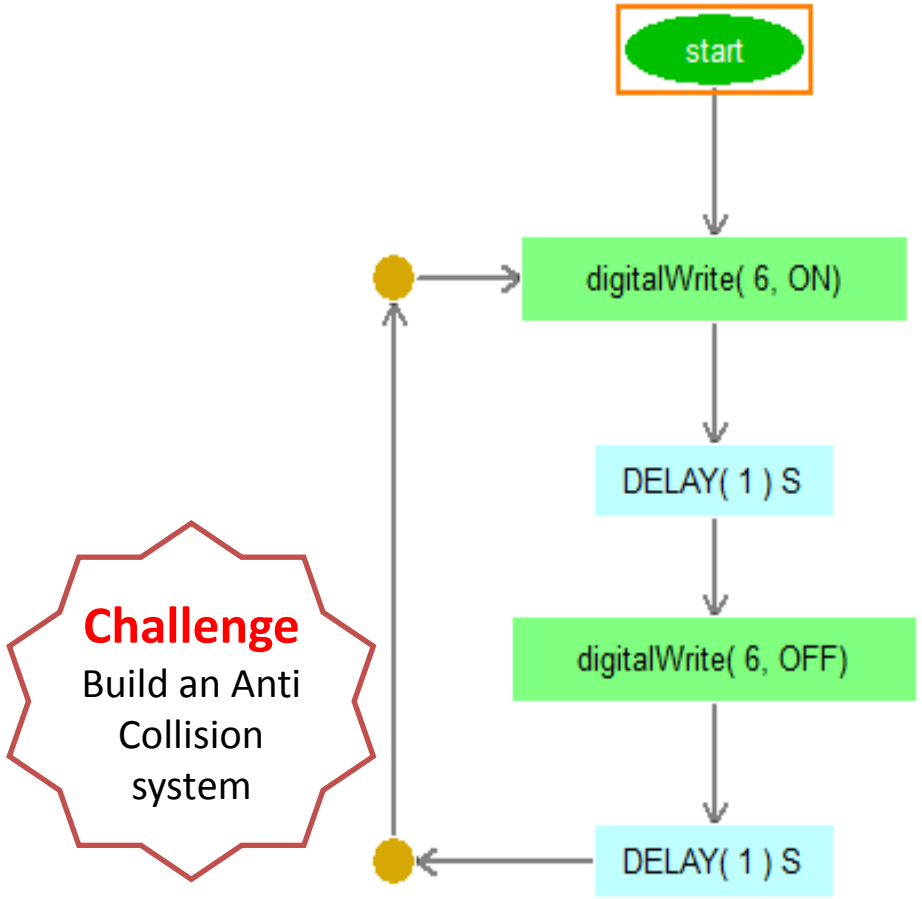



**Control Panel**

Arduino & FlowLogic 6

# Activity #4 – Single LED Blink



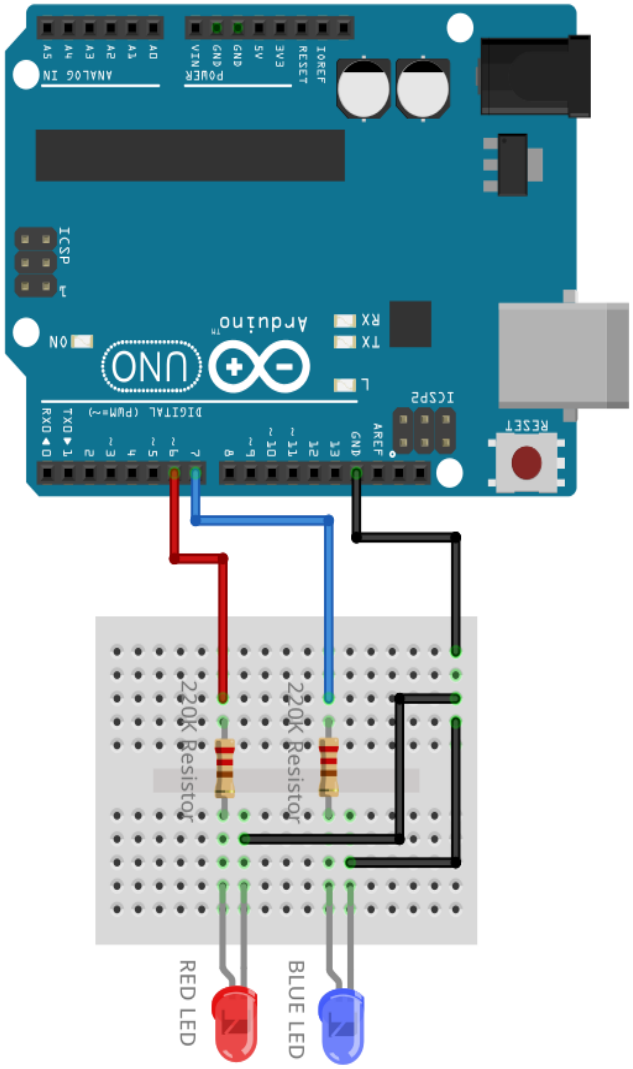

**Challenge**
Build an Anti Collision system

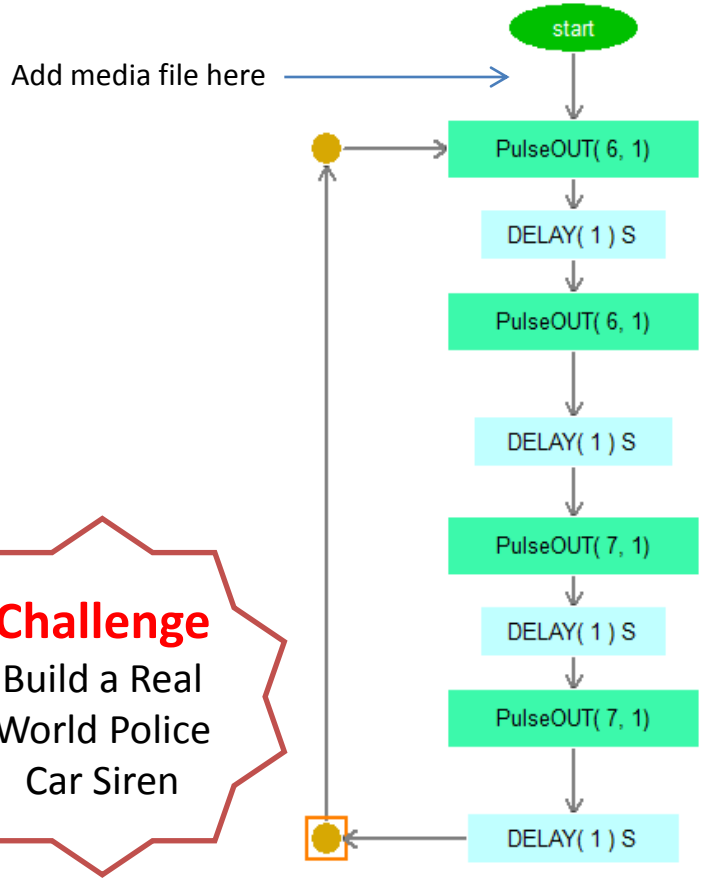
1. Construct the Single LED Circuit as shown
2. Test the circuit using Arduino Control panel

2. Build the above Algorithm/FlowProgram and Execute
3. Change the Delay for various Blinking type

Arduino & FlowLogic 6

# Activity #5 – Police Car siren



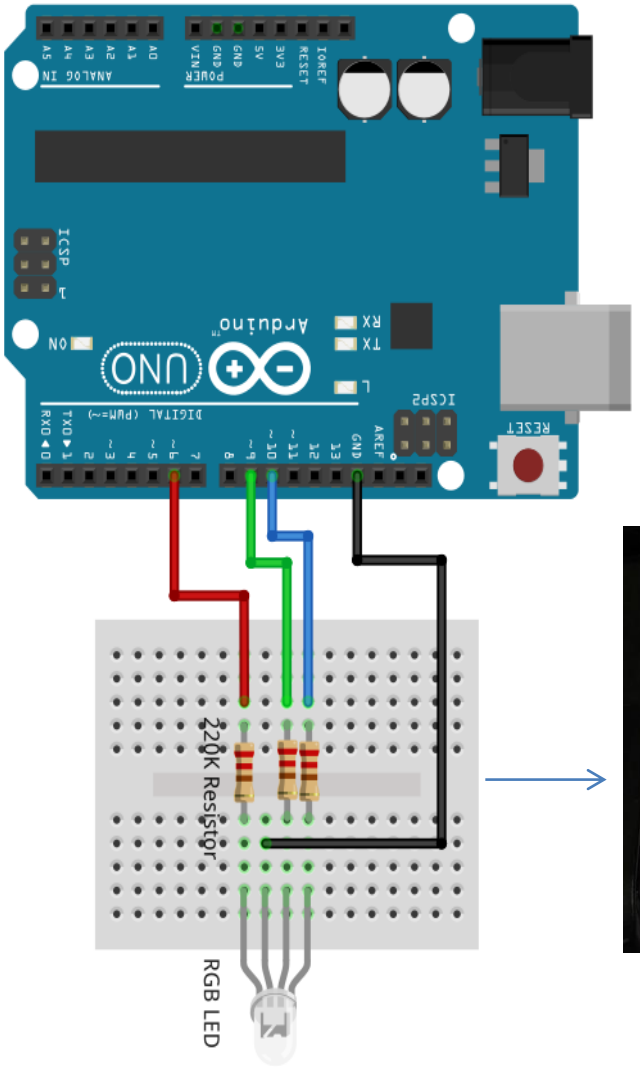

**Challenge**

Build a Real World Police Car Siren

1. Construct the Double LED Circuit as shown
2. Test the circuit using Arduino Control panel
3. Build the above Algorithm/FlowProgram and Execute
4. Change the Delays and PulseOUT timing to animate the LEDs to work like actual Police car siren
5. Add the Police Car siren media file

Arduino & FlowLogic 6

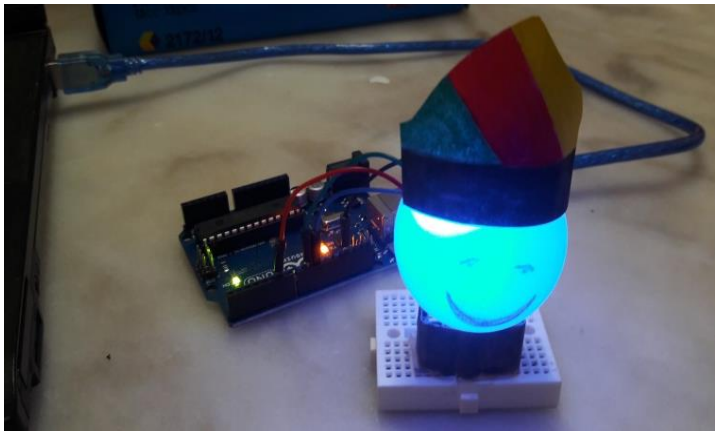
# Activity #6 – Digital Color Mixing & Final Project

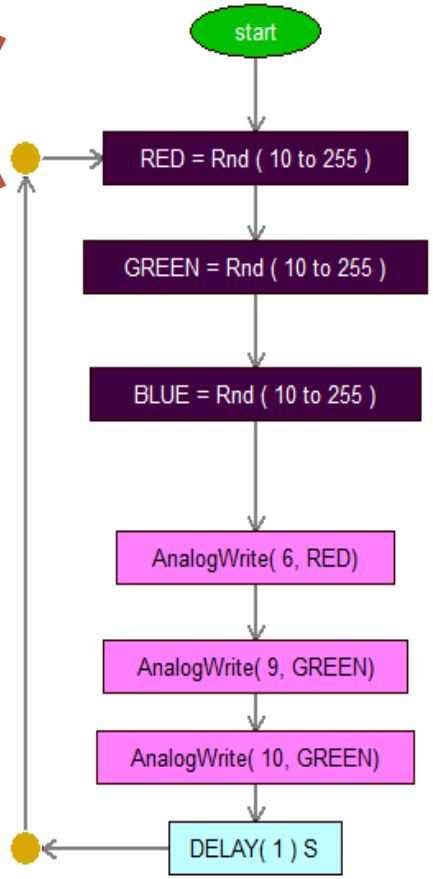



## Challenge

Use Google to a do brief research on Traditional hats of the World - Design and build the selected Hat for your final project. Capture your project in action and upload to YouTube.

**Final Project – Basic Mood Lamp Model**

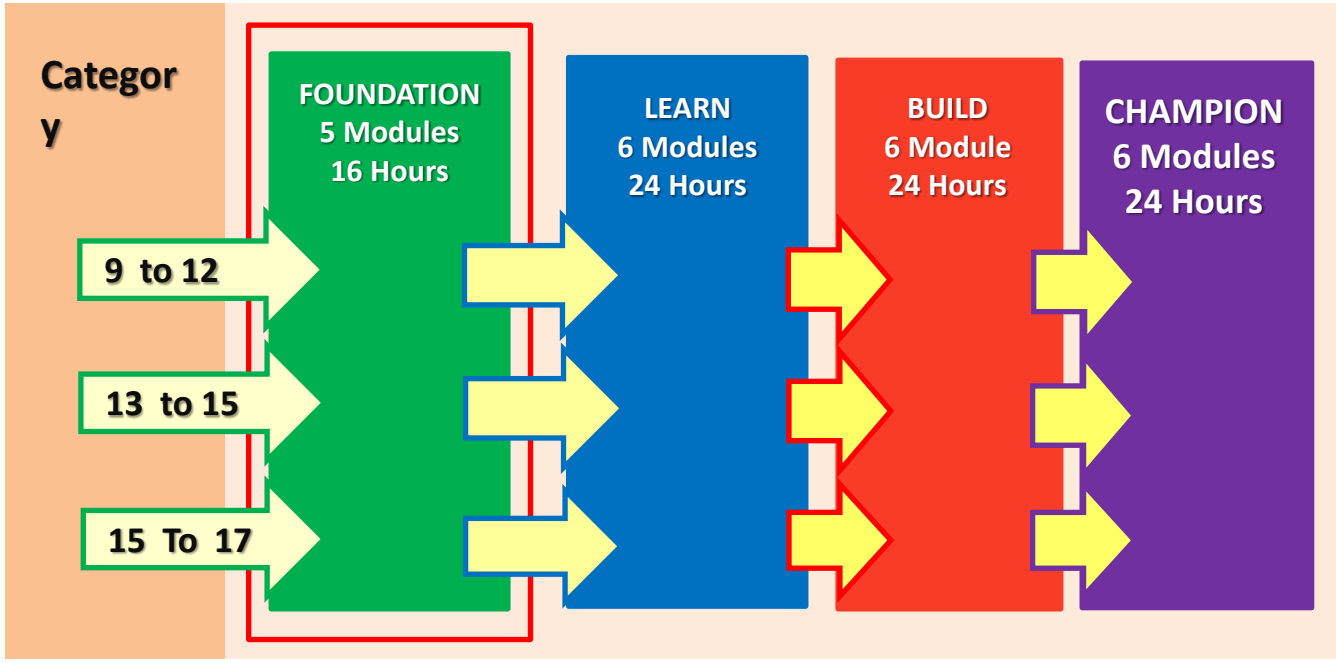





1. Construct the RGB LED Circuit as shown
2. Test the circuit using Arduino Control panel
3. Build the above Algorithm/FlowProgram and Execute
4. Complete the given Final Project creatively

# Digital STEM Programs

## Modules and Duration

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