

# Introduction

mBlock is a graphical programming environment that is specially designed for beginners to easily program Arduino projects.

## Getting started

### mBlock

Download mBlock from <http://www.mblock.cc>

### Arduino kit

## Blinking LED

*What is an LED?*

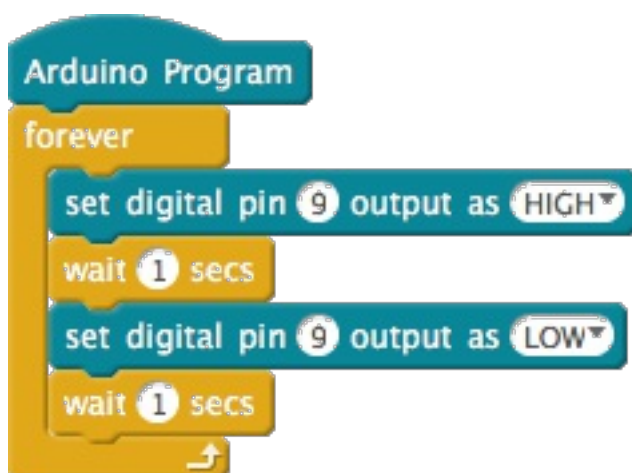
*What is the end result of this experiment?*

## Required parts

Component	Quantity
LED	1
Resistor	1
Jumper wires	3

## Circuit Diagram

## mBlock Code



## Potentiometer

*What is a Potentiometer?*

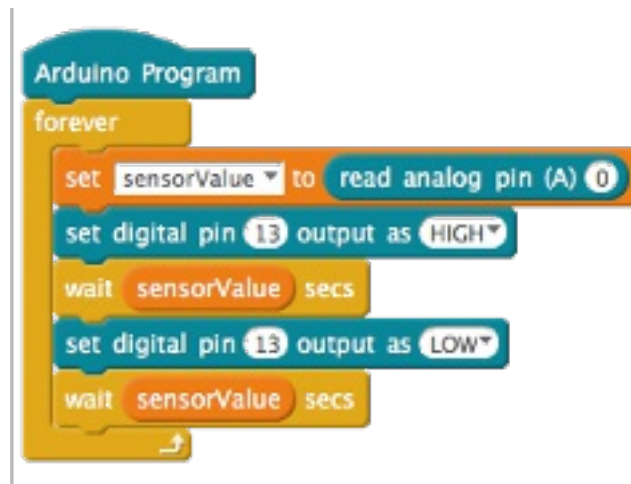
*What is the end result of this experiment?*

## Required parts

Components	Quantity
Potentiometer	1
LED	1
Resistor	1
Jumper wires	1

## Circuit Diagram

### mBlock Code



## RGB LED

*What is an RGB LED?*

*What is the end result of this experiment?*

## Required parts

Component	Quantity
RGB LED	1
Resistor	3
Jumper wires	6

## Circuit Diagram

## mBlock Code

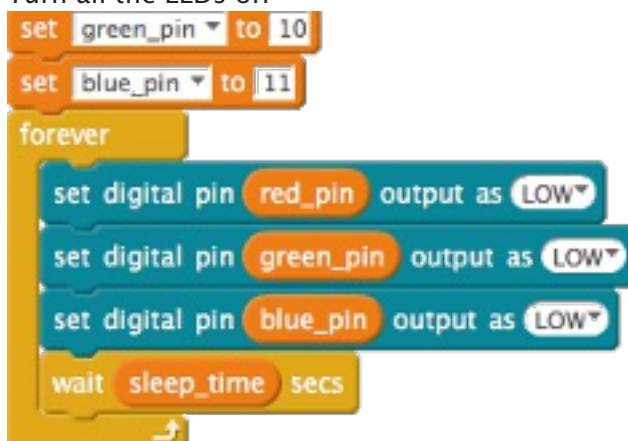
Create variables



Assign variables



Turn all the LEDs off



Turn on red



```
set digital pin red_pin output as HIGH
set digital pin green_pin output as LOW
set digital pin blue_pin output as LOW
wait sleep_time secs
```

The code consists of four blocks. The first three are 'set digital pin' blocks for red\_pin, green\_pin, and blue\_pin, all set to output LOW. The fourth is a 'wait' block with a variable 'sleep\_time' and unit 'secs'.

Turn on green



```
set digital pin red_pin output as LOW
set digital pin green_pin output as HIGH
set digital pin blue_pin output as LOW
wait sleep_time secs
```

The code consists of four blocks. The first three are 'set digital pin' blocks for red\_pin, green\_pin, and blue\_pin, all set to output LOW. The fourth is a 'wait' block with a variable 'sleep\_time' and unit 'secs'.

Turn on blue



```
set digital pin red_pin output as LOW
set digital pin green_pin output as LOW
set digital pin blue_pin output as HIGH
wait sleep_time secs
```

The code consists of four blocks. The first three are 'set digital pin' blocks for red\_pin, green\_pin, and blue\_pin, all set to output LOW. The fourth is a 'wait' block with a variable 'sleep\_time' and unit 'secs'.

Red and Green

Red and Blue

Green and Blue