Manchester Makerspace Arduino Class

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Notes for class

10:00 - 10:10 Introduction

Objectives

1. Understand Digital / Analog / Power pins
2. Learn basic math and science for Arduino
3. See C / C++ language features used on Arduino
4. Get familiar with Arduino ecosystem (IDE, libraries, github, etc.)

To Do

1. Present objectives.
2. Install and tour IDE.
3. Show where libraries go.

10:10 - 10:20 Blink LED

$V = IR$. For our LED, Voltage drop is about 2V. Current is 0.02 Amps. So compute resistor R = (5-2)/0.02 = 150

10:20 - 10:45 Button Push / Memory Limits

1. Use multimeter to check continuity of the button.
2. Do examples 03, 04, 05

10:45 - 11:15 Servos

Do examples 07, 08 (Servos, Servo Functions, Not the library one), 17

11:15 - 11:35 LCD Screen

1. Look at LCD library online
2. Discussion of libraries

3. No need to worry about the pin out on the screen, the library abstracts that
4. Do both examples numbered 10 in repo.

11:35 - 11:55 Write a library

1. Example number 8

11:55 - 12:10 Serial I/O

1. Char datatype as a number, serial reads / writes chars
2. Example number 9 from repo

12:00 - 12:20 Piezo knock and input pullup

do examples 12, 13

12:20 - 12:40 Photoresistor

Photo resistor. Example 15. exercises in example.

12:40 - 1:00 Datatypes, C programming

Example 14, 6