Driving Motors and PWM

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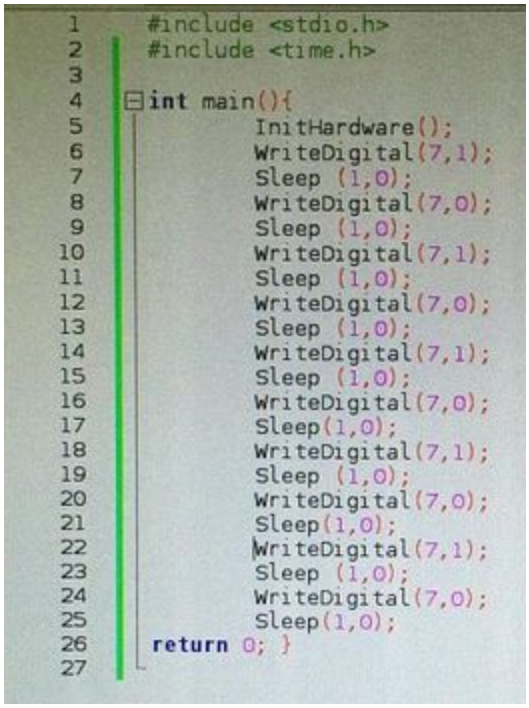
*Worked with Celine Young on the coding

Core 1

50mA is the max current that is able to pass through a GPIO pin.

http://elinux.org/RPi_Low-level_peripherals

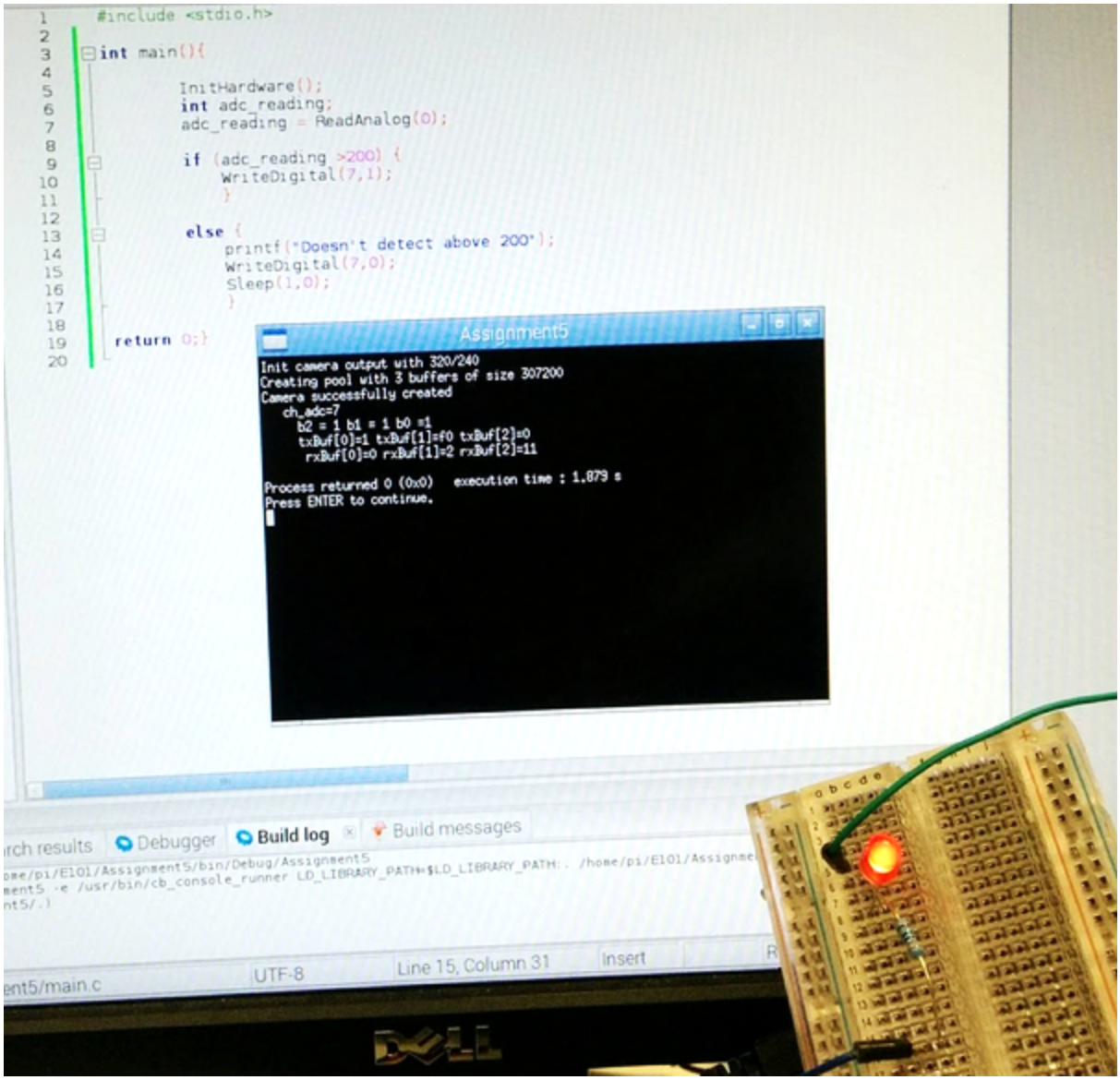
Core 2



```
#include <stdio.h>
#include <time.h>

int main(){
        InitHardware();
        WriteDigital(7,1);
        Sleep (1,0);
        WriteDigital(7,0);
        Sleep (1,0);
        WriteDigital(7,1);
        Sleep (1,0);
        WriteDigital(7,0);
        Sleep (1,0);
        WriteDigital(7,1);
        Sleep (1,0);
        WriteDigital(7,0);
        Sleep(1,0);
        WriteDigital(7,1);
        Sleep (1,0);
        WriteDigital(7,0);
        Sleep(1,0);
        WriteDigital(7,1);
        Sleep (1,0);
        WriteDigital(7,0);
        Sleep(1,0);
return 0; }
```

Core 3



Core 4

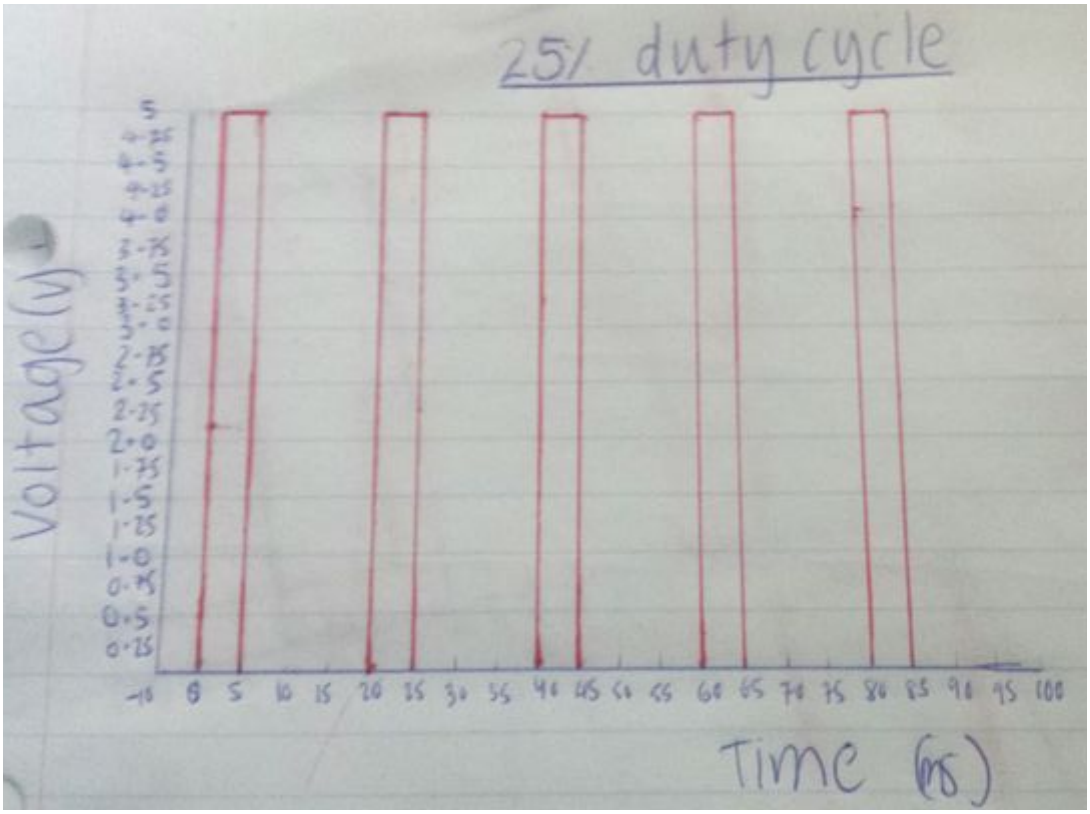
As the voltage being outputted by the pin is increased, the LED bulb brightness also increases.

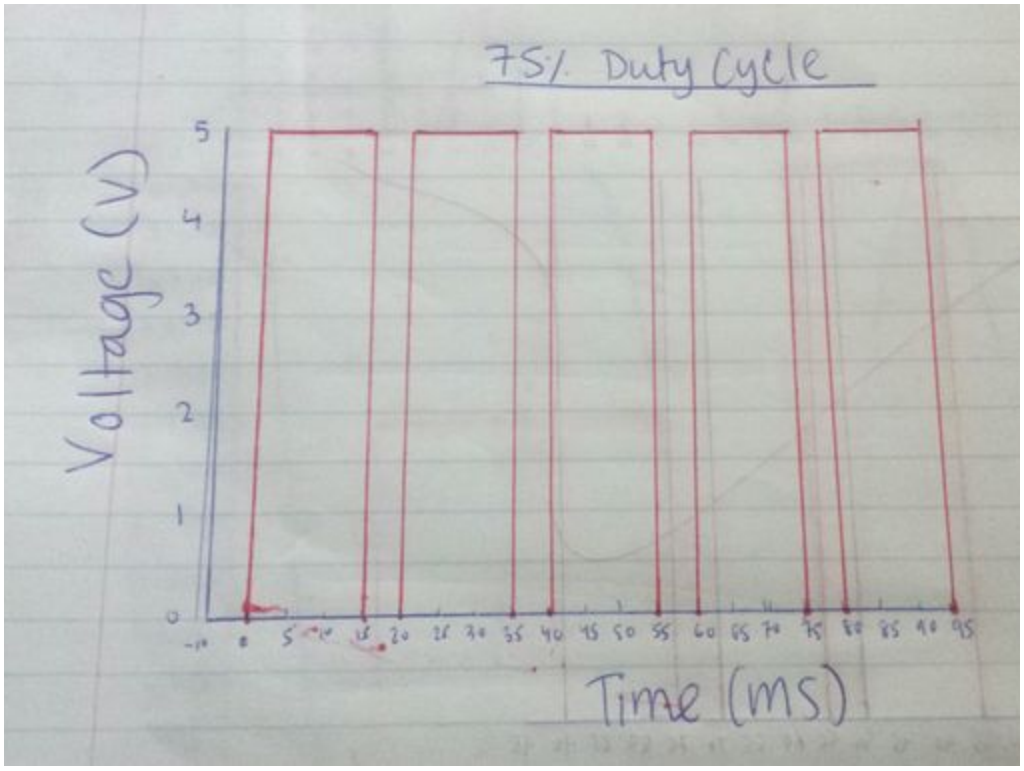
Core 5

*main.cpp

```
1  #include <stdio.h>
2  #include <time.h>
3
4  extern "C" int InitHardware();
5  extern "C" int Sleep(int sec, int usec);
6  extern "C" int SetMotor(int motor, int dir, int speed);
7
8  //Left wheel = 1 and right wheel = 2
9  int main(){
10     //To turn left
11         InitHardware();
12         SetMotor(1,2,100);
13         SetMotor(2,1,200);
14         Sleep(0,500000);
15     //To turn right
16         SetMotor(1,1,200);
17         SetMotor(2,2,100);
18         Sleep(0,500000);
19
20 return 0;}
21
```

Completion 1





Completion 2

Challenge 1