Pulse wide modulation. (PWM)

Task 01

1. Connect the LED to the PWM pin through the resistor and blink it.
2. Edit the code to change LED intensity.
3. Explain the code to the instructor and earn your marks.

Task 02

1. Construct the traffic light system
2. Red light should turn on 10 second
3. Turn on the yellow led and blink it 5 times, blink means the intensity of the led should increase and decrease.
4. Turn on green led 10 second
5. Turn on the green led and blink it 5 times, blink means the intensity of led should increase and decrease.
6. Turn on the yellow led 5 second
7. Turn on the red led and repeat.
8. Explain the code to the instructor and earn your marks.

Task 03

Could you construct the variable voltage supply that can change from 0 to 5 V every two seconds to 0.1 V? You need to show it to the instructor and earn your mark.

Task 04

Could you repeat task 3 with the new voltage range of 0 V to 9 V explain your circuit and code to the instructor and earn your marks.

Analog to digital convertor (ADC)

Task 01

1. Connect Led to the PWM pin and variable resistor output pin to the analog input in Adriano.
2. Create the circuit and code to change the Led intensity by changing the resistor value.
3. Explain the code and circuit to the instructor and earn your marks.

Task 02

1. Create the dark sensitive circuit that led intensity will change with respect to the ambient light level.
2. Explain the code and circuit to the instructor and earn your marks.

Task 03

1. Create the variable voltage supply that voltage changed from 0 to 9 V by changing the variable resistor value.
2. Explain the code and circuit to the instructor and earn your marks.