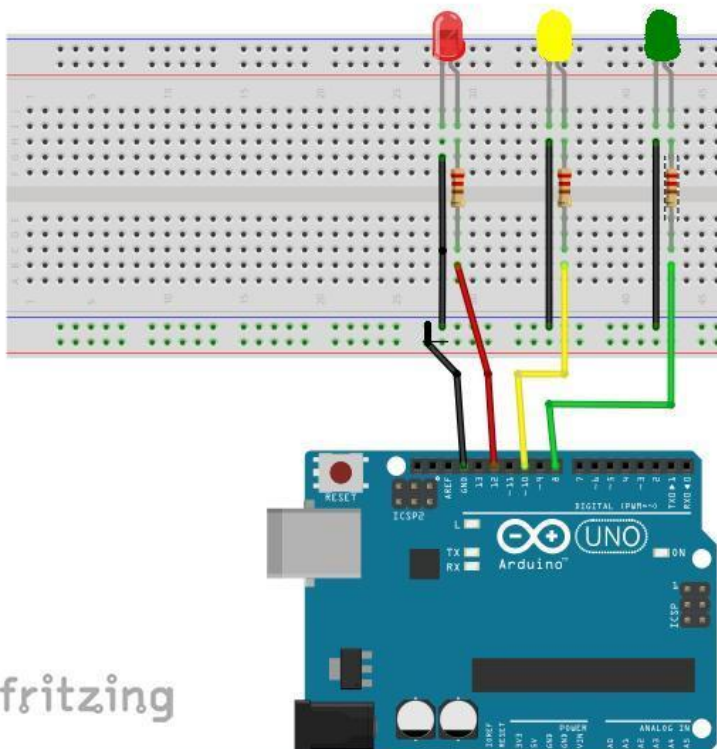




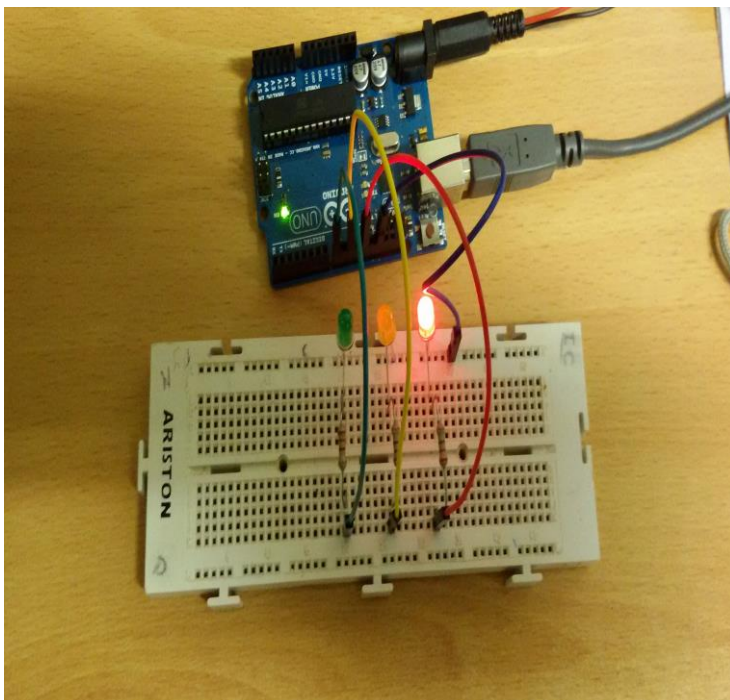
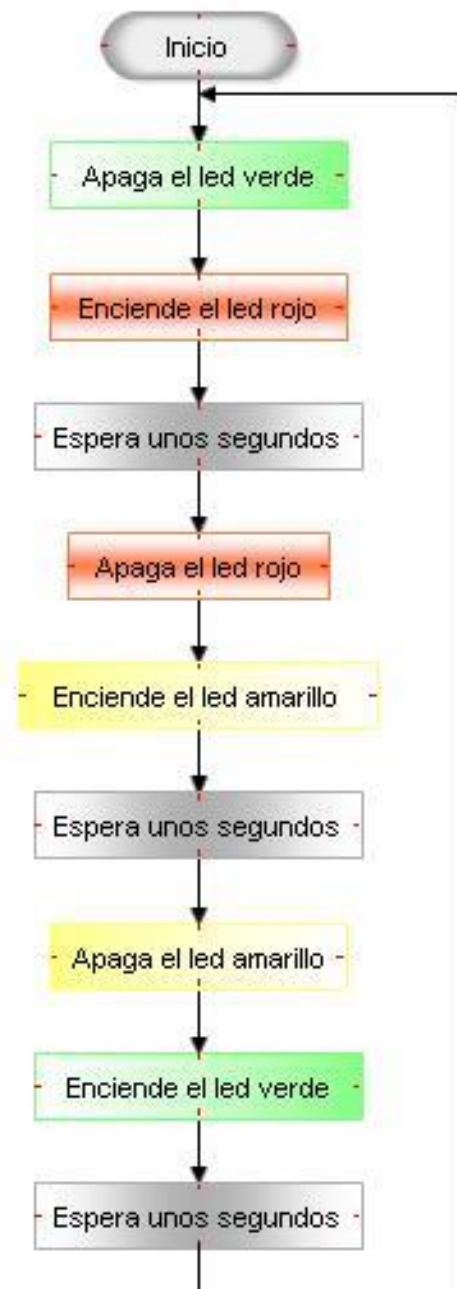
## Practice 2 – Programming a traffic light

To carry out this practice we will use a protoboard plate, three LEDs (one red, one yellow and one green), three resistors and an Arduino board. It is to connect the negative pole of the three LEDs to the GND pin and the positive to the digital pins 8, 10 and 12 with an intercalated resistance of 220 ohms to avoid damaging the LEDs, as it appears in the diagram below.

Once connected, we will think about the steps to be taken to program the Arduino board in such a way that a cycle is performed in which each LED turns on for a few seconds and then goes off at the same time as the next one.



The sequence can be seen in the following flowchart:



The Arduino instructions that will allow us to perform this sequence are the ones that appear in the image below:

```
sem_foro_block

void setup()
{
  pinMode( 10 , OUTPUT);
  pinMode( 12 , OUTPUT);
  pinMode( 8 , OUTPUT);
}

void loop()
{
  digitalWrite( 8 , LOW );
  digitalWrite( 12 , HIGH );
  delay( 5000 );
  digitalWrite( 12 , LOW );
  digitalWrite( 10 , HIGH );
  delay( 2000 );
  digitalWrite( 10 , LOW );
  digitalWrite( 8 , HIGH );
  delay( 5000 );
}
```

In `void setup ()` we define pins 8, 10 and 12 as outputs.

In `void loop ()` a cycle will occur in which the green, yellow and red LEDs will alternately flash with an interval of 2 seconds in the passage from yellow to red and 5 seconds when the step is from red to green or From green to yellow.