Arduino Job2

En fonction des informations suivantes, calculer les valeurs nécessaires à la résistance pour obtenir un courant de 10 milliampères à travers la LED.

- ➔ La tension de seuil de la LED est de 2 volts
- ➔ La tension d'alimentation de l'Arduino est de 5 volts
- ➔ Le courant maximal que peut supporter la LED est de 20 milliampères
- ➔ Le port de sortie de l'Arduino peut fournir une tension de 5 volts et un courant max de 40 milliampères

Based on the following information, calculate the resistor values required to obtain a current of 10 milliamps through the LED.

- ➔ The LED's threshold voltage is 2 volts
- ➔ The Arduino's supply voltage is 5 volts
- ➔ The maximum current the LED can withstand is 20 milliamps
- ➔ The Arduino's output port can supply a voltage of 5 volts and a max current of 40 milliamps

R = V / I

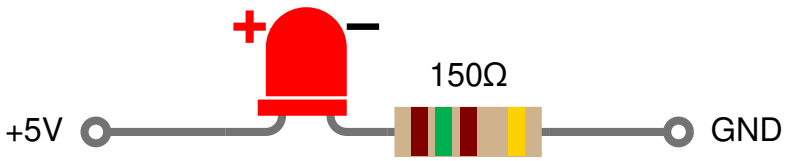
R = (5V -2V) / 0.02A

LED Calculator https://ledcalculator.net/

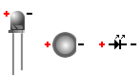
LED Calculator

ledcalculator.net

- Power supply voltage (V): 5
- LED voltage drop (V): 2
- LED current rating (mA): 20
- Number of LEDs: 1



- You will need 1 x 150 ohm 1/8 watt resistor.
- The 150 ohm resistor is color coded: Brown, Green, Brown, Gold.
- Each 150 ohm resistor consumes 60 milliwatt.
- Total power consumed by the resistors is 60 milliwatt.
- Total power consumed by the LEDs is 40 milliwatt.
- Total power consumed by the circuit is 100 milliwatt.
- Total current drawn by the circuit is 20 milliampere.
- The resistor values are calculated based on the common ±5% tolerance resistors.
- Make sure to wire the LEDs in the correct direction as shown below.
- Always leave some space for the resistors to breathe. They might get hot.



https://ledcalculator.net/#p=5&v=2&c=20&n=1&o=w