Conclusion

1. LED lights :

   - You need to turn the LED on to turn it on. In the Arduino circuit, you can do this by setting the pin connected to the LED as output, then setting the p in to high to provide voltage to the LED and turning it in direction.

2. Blinking LED:

   - The blinking LED should turn on and off at regular intervals. This can be d one using a simple code that switches the state of the pin connected to the LED between high (on) and low (off) with a delay between checking the bl inks. This simple example is often used to demonstrate the operation of LE Ds and microcontrollers such as Arduino.

3. Increasing and decreasing LED Brightness:

   - You can use Pulse Width Modulation (PWM) to control the brightness of t he LED. By changing the duty cycle of the PWM signal, you can adjust th e average power sent to the LED, thus changing its brightness. You can us e the analogWrite() function to achieve this result in Arduino. By changing the value passed to AnalogWrite(), you can increase or decrease the bright ness of the LED connected to the corresponding pin.

Testing confirmed that the LED circuit can operate normally and perform simple t asks such as turning on, blinking, and adjusting brightness. This indicates that the design and electrical equipment are suitable for further development or integration into a larger project.