**Usage:**

**Usage of the CPU Cooler Using Arduino System:**

1. **Initial Setup**:
   * After assembling the hardware components (Arduino, temperature sensor, relay module, and cooling fan) and uploading the code to the Arduino board, power on the system.
   * The temperature sensor continuously reads the CPU temperature and sends the data to the Arduino.
2. **Automatic Fan Control**:
   * The Arduino continuously monitors the temperature.
   * If the CPU temperature exceeds a predefined threshold, the Arduino triggers the relay module to activate the cooling fan.
   * The fan speed is adjusted (if your setup supports PWM control) or it simply turns on or off based on the temperature readings.
3. **Real-Time Adjustment**:
   * As the CPU temperature fluctuates, the system adapts by controlling the fan speed or switching the fan on/off, ensuring that the temperature stays within a safe range.
   * If the temperature falls below the threshold, the fan is turned off to save energy and reduce noise.
4. **No User Intervention**:
   * Once set up, the system works automatically, without the need for manual adjustment, ensuring the CPU remains cool during heavy processing tasks or gaming sessions.
5. **Energy Efficiency**:
   * The system consumes power only when necessary, running the fan at lower speeds or turning it off when cooling is not needed.
6. **Quiet Operation**:
   * The fan adjusts its speed based on real-time temperature, which helps minimize noise during idle or low-temperature periods.