**🌟 Main Components (Classes)**

**1. Device (Parent Class)**

* **Attributes:**
  + brand: String — the brand of the device.
* **Methods:**
  + turnOn(): void — turns on the device.
* **Note:** It's a general class. DigitalClock inherits from it.

**2. DigitalClock (Inherits from Device)**

* **Has Relationships With:**
  + Battery (uses a battery)
  + Alarm (has an alarm)
  + Display (shows time on the display)
* **Constructor:**
  + DigitalClock(battery: Battery)
* **Methods:**
  + startClock(): void — starts the clock.

**3. Battery**

* **Attributes:**
  + chargeLevel: int = 100 — default battery level.
* **Methods:**
  + useBattery(): void — reduces charge when clock is running.

**4. Alarm**

* **Attributes:**
  + alarmTime: String = "07:00" — default alarm time.
* **Methods:**
  + checkAlarm (currentTime: String): void — checks if it's time to ring.

**5. Display**

* **Methods:**
  + showTime(time: String): void — shows the current time on screen.

**6. ClockThread**

* This class uses threading to keep the clock running continuously.
* **Constructor:**
  + ClockThread(d: Display, a: Alarm, b: Battery)
* **Methods:**
  + run(): void — runs the clock in the background (thread).

**🔁 Relationships**

* **Inheritance (arrow with white triangle):**
  + DigitalClock → Device (DigitalClock is a Device)
* **Composition (black diamond):**
  + DigitalClock "has-a" Battery, Alarm, Display (strong ownership)
* **Association (line):**
  + ClockThread uses Display, Alarm, and Battery (passed to it)

**🧠 Summary in Simple Terms:**

A **DigitalClock** is a device that uses a **Battery**, shows time using a **Display**, and rings at a specific time set in an **Alarm**. The clock runs continuously in a **ClockThread**, which keeps checking the time, displaying it, and using the battery.