Eman Fathi Intake 45

# Create a Base Class Clock, this class initials the starting time for any clock object

## 1. Properties:

- a) public -> hours, minutes, seconds
- b) private -> IntervalId

### 2. Constructor:

- a) Accept an initial time (e.g., HH:MM:SS) as a string.
- b) Parse the time and store it as hours, minutes, and seconds Properties.

## 3. Static Member:

a) Add a static method formatTime(hours, minutes, seconds) to format the time as HH:MM:SS from the class properties

# 4. Private Methods:

a) Create a private method #tick() to increment the clock's time by one second.

## 5. Public Methods:

- a) start(): Starts the clock using setInterval to call the #tick() method every second.
- b) stop(): Stops the clock.
- c) getTime(): Returns the current time formatted as HH:MM:SS (now it's time to use formatTime method to convert properties to string)

# Create a Subclass AlarmClock:

- Inherit from the Clock class.
- private alarmTime property to store the alarm time as , HH:MM:SS
- Constructor:
  - o Accept an additional parameter alarmTime (e.g., HH:MM:SS) for the alarm.

#### Private Methods:

• Create a private method #checkAlarm() to compare the current time with the alarm time.

## Public Methods:

- o Override the start() method to call #checkAlarm() every second.
- o Add setAlarm(newAlarmTime) to update the alarm time.

# Testing the Implementation:

• Instantiate an AlarmClock object with an initial time and alarm time.

Eman Fathi Intake 45

- Start the clock and ensure it prints the time to the console every second.
- If the alarm time matches the current time, log "Alarm! Wake up!" and stop the clock.

# Example for using the classes:

```
const sleepAlarmClock = new AlarmClock('14:59:55', '15:00:00');
sleepAlarmClock.start();
setTimeout(() => sleepAlarmClock.setAlarm('15:01:00'), 10000); // Update alarm after 10 seconds
```

Try to control the message instead of log "Alarm! Wake up!" every time