You will design a circuit of LDR light sensor and DHT11 temperature and humidity sensor. You will write an Arduino program to monitor conditions of a room using temperature, humidity and light data concerning following thresholds.

Thresholds are:

Humidity ϵ [30%, 50%] → “Optimal Humidity”

Humidity < 30% → “Low Humidity”

Humidity > 50% → “High Humidity”

Light >= 400 → “Day”

Light < 400 → “Night”

Temperature during Day ϵ [20°C, 24°C] → “Optimal Temperature”

Temperature during Day < 20°C → “Cold”

Temperature during Day > 24°C → “Hot”

Temperature during Night ϵ [18°C, 21°C] → “Optimal Temperature”

Temperature during Night < 18°C → “Cold”

Temperature during Night > 21°C → “Hot”

Your program should display relevant description on the serial monitor window in an interval of 3 seconds. The text format should be as follow:

Date: 03.06.2021 - Hour: 17:19 – Light: 580 Temperature: 30°C - Humidity: 45%

Day – Hot - Optimal humidity

Date: 03.06.2021 - Hour: 18:17 – Light: 353 Temperature: 23°C - Humidity: 30%

Night – Hot - Low humidity

Date: 03.06.2021 - Hour: 19:53 – Light: 269 Temperature: 18°C - Humidity: 70%

Night – Optimal temperature - High humidity

Date: 03.06.2021 - Hour: 20:14 – Light: 153 Temperature: 16°C - Humidity: 29%

Night – Cold - Low humidit