[Date]

Kyer Potts

30003389

Scripting AT2.2

Develop Test Plan, Write Code and Implement

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# Pseudo Code

## Read and Display Inside Temperature and Humidity

DHT11Pin = 4

insideTemp = 0

insideHumidity = 0

SET DHT11Pin as READ IN Pin

setup

Begin READ IN for DHT11Pin

Loop

insideTemp = DHT11Pin READ IN

insideHumidity = DHT11Pin READ IN

PRINT insideTemp

PRINT insideHumidity

## Read and Display Outside Temperature

outsideTempSensor = A2

outsideTemp = 0

setup

SET outsideTempSensor as READ IN Pin

loop

outsideTemp = outsideTempSensor READ IN

PRINT outsideTemp

## Control LED’s and Buzzer

LEDred = 0

moodRed = 9

moodGreen = 10

moodBlue = 11

buzzer = 5

setup

SET LEDred as WRITE pin

SET moodRed as WRITE pin

SET moodGreen as WRITE pin

SET moodBlue as WRITE pin

SET buzzer as WRITE pin

loop

serialData = READ IN Serial Data

switch case (serialData)

Case 100:

WRITE LEDred ON

Break

Case 101:

WRITE LEDred OFF

Break

Case 102:

WRITE moodRed ON

WRITE moodGreen OFF

WRITE moodBlue OFF

Break

Case 103:

WRITE moodRed OFF

WRITE moodGreen ON

WRITE moodBlue OFF

Break

Case 104:

WRITE moodRed OFF

WRITE moodGreen OFF

WRITE moodBlue ON

Break

Case 105:

WRITE moodRed OFF

WRITE moodGreen OFF

WRITE moodBlue OFF

Break

Case 106:

WRITE buzzer ON

Break

END SWITCH CASE

## Automatic Blue Light Switch Control

lightSensor = A1

lightData = 0

LEDblue = 13

setup

SET LEDblue as WRITE Pin

loop

lightData = lightSensor READ IN

IF (lightData > 500)

DELAY (10 SECONDS)

WRITE LEDblue ON

ELSE

WRITE LEDblue OFF

END IF

# Test Planning

## Test Data

All data that reads and writes to the Arduino board will be tested to ensure that all requirements are functioning correctly. Input data for the C# user interface will be tested to ensure that all interface connections are link to their appropriate read and write functions linked through the chosen serial port.

## Test Case

|  |  |
| --- | --- |
| Case ID | Description |
| 1. | GUI connects to chosen COM Port successfully |
| 2. | GUI display correct outside Temperature Information |
| 3. | GUI displays correct inside Temperature Information |
| 4. | GUI displays correct inside Humidity information |
| 5. | Red LED toggle buttons toggles Red LED On/Off |
| 6. | Mood light radio buttons toggle respective mood light colour On/Off |
| 7. | Blue light toggles On in low light |
| 8. | Blue light toggles Off in low light |
| 9. | Max Temp can be altered successfully |
| 10. | Buzzer sounds when current inside Temperature readings exceed chosen Max Temp setting |

## Test Justification

The above testing criteria was chosen to ensure that the mandatory requirements of the project are fulfilled without any issues or bugs. All port connections and read/write procedures must be tested to ensure all features are working as intended and all connections are aligned to their respective output pins on the Arduino board device. In conjunction, these tests ensure that all code within both platforms interfaces correctly without data conversion errors, bugs or logic errors.