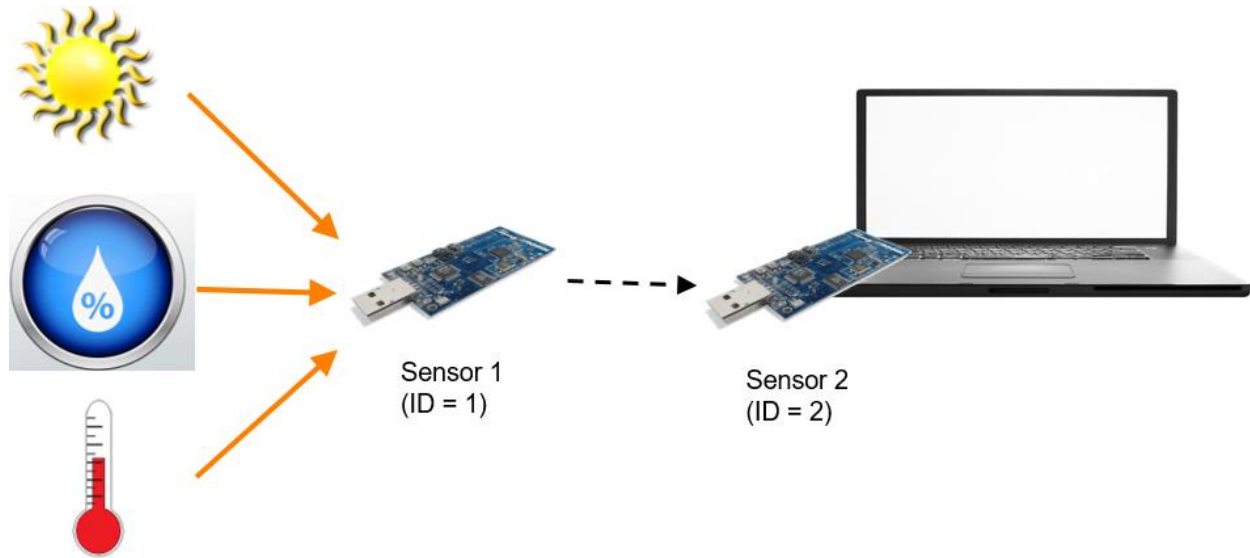


## Programming Assignment (480I/580I Spring 2020)



In every second, Sensor 1 (Network ID = 1) measures the ambient light intensity, transmits a packet which carries the light reading to Sensor 2 (Network ID = 2), and toggles the onboard red LED after finish the transmission.

In every two seconds, Sensor 1 measures the humidity, transmits a packet which carries the humidity reading to Sensor 2, and toggles the onboard green LED after finish the transmission.

In every three seconds, Sensor 1 measures the temperature, transmits a packet which carries the temperature reading to Sensor 2, and toggles the onboard blue LED after finish the transmission.

Sensor 2 toggles the red LED when receiving a light reading and forwards the data to the computer.

Sensor 2 toggles the green LED when receiving a humidity reading and forwards the data to the computer.

Sensor 2 toggles the blue LED when receiving a temperature reading and forwards the data to the computer.

Computer displays the readings in a terminal.

### Additional Requirements:

1. Please define three kinds of packets and use different kinds of packets to carry different kinds of data.
2. Please use one implementation for both Sensor 1 and Sensor 2

3. Please provide comments for each function block and a readme on how to compile and run your code

## Submission

Create a tar or zip archive and submit it in myCourses before the submission deadline. The submission link will disappear automatically after the deadline. **Late submissions will not be accepted under any circumstances.** Plan to turn in your assignment early. You can also email your code to [buiotspring2020@gmail.com](mailto:buiotspring2020@gmail.com) as backup.

**Please include the below academic honesty statement in your readme file:**

"I have done this assignment completely on my own. I have not copied it, nor have I given my solution to anyone else. I understand that if I am involved in plagiarism or cheating I will have to sign an official form that I have cheated and that this form will be stored in my official university record. I also understand that I will receive a grade of **0** for the involved assignment for my first offense and that I will receive a grade of **"F" for the course** for any additional offense."

## Grading Guidelines (30 points)

- Program does not have your academic honesty statement: -30 points
- Program is not implemented in NesC under TinyOS: -30 points
- Program cannot compile: -30 points
- Program cannot run properly: -25 points at least
- Program can run properly
  - Each logic error (e.g., using a wrong network ID, not toggling a LED correctly, not display a reading properly): -5 points
  - Fail to meet each requirement: -5 points
- Others
  - Bad programming style (e.g., no indentation, using variable a, b, c): -5 point
  - Insufficient comments: -5 points
  - Do not have readme: -5 points

**Submission Deadline: 9:00am 3/16/2020 Eastern time**

**Demo Deadline: 3/27/2020**