Assignment 2: Hello BeagleBone

For this assignment you will need a BeagleBone Black, a Robotics Cape, and a host-computer. Please create a single PDF document containing the answers to all questions in this assignment. Also include your source code on the last page. For this assignment you will submit a single PDF file to submissions@renaissance-press.com instead of just your source code.

You may work together with a partner and may even share a BeagleBone. However, all source code, answers, and figures must be your own. Copying is another's work is a violation of the academic honesty policy.

Resources (Read Carefully)

http://beagleboard.org/getting-started

http://strawsondesign.com/#!manual-usb

http://strawsondesign.com/#!manual-install

http://strawsondesign.com/#!manual-project-template

http://strawsondesign.com/#!manual-init-cleanup

http://strawsondesign.com/#!manual-flow-state

http://strawsondesign.com/#!manual-leds

http://strawsondesign.com/#!manual-buttons

Setup

Using the resources above, make sure your BeagleBone is flashed to a Debian Jessie image at least as new as 10-26-2016. Then set up USB networking, SSH and SFTP clients on your host computer. You should now be able to follow the installation instructions above to install the Robotics Cape package.

Making Your First Program (10 pts)

Follow the project template instructions listed above to make your own first project named my_blink. Here you will write your own version of the ‘blink’ example with your own twist. It must meet the following requirements:

- The pause button must toggle the program state between RUNNING and PAUSED.

- The mode button must change what your program does in some way.

- Both green and red LEDs must do something differently depending on the mode.

- The main while loop must print something to the console to indicate it is running.

- It must exit the main while loop when ctrl-c is pressed.

- It must sleep at some point in the while loop.

- It must print “Goodbye Cruel World” to the console after the main loop exits and before main() returns.

As long as these requirements are met and you submit a PDF with the source code and a screenshot of the console output, you will receive all 10 points. You may have fun blinking lights and making this fancy but I would rather you move onto the next assignment instead.