ECE 331

Homework 1

See course web site for due date

Place your typed homework answers in vim. Print single sided with your name using a mono space font. No need to restate questions. Fully investigating questions is required for a higher grade. Please use the kernel coding style for all code. Please use your RPi for developing answers. Although code should be written and run on a RPi, it should run on ANY POSIX compliant OS. As always, all code shall be comment, conform to the Linux Kernel Coding Style, and error conditions shall be checked and appropriately handled.


   For your answer, indicate that the tutorial has been completed.

2. Review the Linux Kernel Coding Style document.

   For your answer, indicate that the document has been reviewed and will be conformed to.

3. Using your RPi, write a C program using vim that prints all passed command line arguments.
   a) For this part, include your source code in the body of your homework not a separate printout.
   Compile your program with gcc -o args -Wall -g args.c
   b) Give the single command to pass the filename American Dad $ummer Camp.mp4 and all files that contain the string !*\& (exclamation star backslash ampersand) anywhere in the filename to your program. Information about command line arguments:
      http://www.cprogramming.com/tutorial/c/lesson14.html. Ignore the bad style at the preceding web site....

4. Write a C program that prints the length of a C string passed on the command line. Write as concise code as possible. For this part, include your source code in the body of your homework not a separate printout.

5. Using your program from the previous question, determine the longest single argument that can be passed to a program. Give the command(s) used to determine the value and the value.

6. Find and look over the FHS. Answer the following questions.
   a) Give the purpose of the /etc directory stated in your own words.
   b) Give the requirements for /usr/share.

7. Login to the gitlab server at gitlab.eece.maine.edu. Generate an SSH key and upload the public key to gitlab. Follow the SSH keygen directions at http://doc.gitlab.com/ce/ssh/README.html. Then add the key to gitlab following the directions at http://doc.gitlab.com/ce/gitlab-basics/create-your-ssh-keys.html.

   For your answer, indicate that this is complete.

8. Follow the online instructions to compile and install VLC 2.2.8 with the OpenMAX IL video output. For your answer demonstrate using your RPi, in person, to the course instructor that VLC works BEFORE the homework is due.