

# ECE 331

## Homework 3

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.

1. Be sure that this is done. Obtain Module7.symvers from [github.com/raspberrypi/firmware](https://github.com/raspberrypi/firmware). Be sure to get the correct kernel version.

2. Left to student

3. 

```
#include <stdio.h>
#include <stdlib.h>
#include <regex.h>
#include <string.h>
#include <sys/types.h>
```

```
int main(int argc, char * argv[])
{
    regex_t re;
    int ret;
    char line[4096];
    regmatch_t rm[256];

    if (argc!=2) {
        fprintf(stderr,"Usage: %s Eregex\n",argv[0]);
        fprintf(stderr,"  data input from stdin\n");
        return 1;
    }
    ret=regcomp(&re, argv[1],REG_EXTENDED);
    while (!feof(stdin)) {
        fgets(line,4096,stdin);
        ret=regexexec(&re,line,256,rm,0);
        if (!ret) {
            printf("%s",line);
        }
    }
    regfree(&re);
    return 0;
}
```

4. 

```
# ./ere '[0-9][0-9][^0-9]' < testcases > a
# grep '[0-9][0-9][^0-9]' testcases > b
# diff a b
```

5. 

```
aptitude search '[0-9]' | wc -l
# Verify it worked
aptitude search '[0-9]' | sed -e 's/^...//' -e 's/^ //' | awk '{print $1}' | grep
-v '[0-9]'
```

6. 

```
[0-9]|[1-9][0-9]|100
```

7. /<sup>^</sup> +Wselector