

1. vi was used to write the entire exam.

2.

```
TARGET=for
OBS=fileone.o filetwo.o filethree.o
LIBS=-lm
CFLAGS=-g -Wall
FFLAGS=-g -Wall

$(TARGET):$(OBS)
    $(CC) -o $(TARGET) $(OBS) $(LIBS)
```

clean:

```
rm -f $(TARGET) $(OBS)
```

3. `(([AI]' '){,1}[A-Z]{1}[a-z]+' '{,1}(((a-Z"\$%\'\(\)*:;@]+' '?)|(\d{1}))[!\.\?]{1}`

Assumptions: I am assuming that an 'english sentence' begins with a capital character. I am also assuming since each sentence is on a single line that each sentence has no preceeding spaces. All sentences will also end with one punctuation mark. One word sentences are accepted. All words are seperated by a single space. Proper english convention is used (i.e. numbers greater than 9 shall be written out, only one digit numbers). I'm also allowing certain metcharacters you may see in an english sentence.

Unintended Matches: 'A.' will match but it's not really a sentence. It will also match '#####' since I am accepting metacharacters (or really any random combo of metachars). Can't really do this any better because you can't know how they may be used.

4.

```
#include <stdio.h>
#include <stdlib.h>
#include <errno.h>
#include <sys/types.h>
#include <sys/stat.h>
#include <unistd.h>

int main(int argc, char *argv[])
{
    int i;                // argv index
    off_t s=0;            // total bytes
    int ret=0;            // general return value for errors
    struct stat *buffer;

    // Check for passed filename
    if (argc < 2) {
        printf("No filename passed\n");
        return -1;
    }

    // stat all files passed on the command line and count the bytes
    for(i = 1; i < argc; i++) {
        ret = stat(argv[i], buffer);
        if (ret < 0) {
            printf("Error using stat()\n");
            return -1;
        }
        s += buffer->st_size;
    }

    printf("Total Size: %llu\n", s);    // Total

    return 0;
}
```

5a. `sudo chown -R pi /usr/src`

5b. `ln -s /var/lib/systimer/logs/abc /usr/apt/opt/bin/foobar`

5c. `chmod -R go+rx /opt/ngspice`

5d. out of time, had trouble with this in past

6. I would attempt to meet with the highest ranking person(s) in the company as soon as I can. A physical meeting would be preferable because I am completely unaware of the true contents of these 'trade secret' files and "Trinity's" intentions. And since she has a higher security clearance than myself I wouldn't want her to know about what I've seen which she could find out if she has administrative email access. I also need to explain myself to a higher-up ASAP because I performed an unethical action by impersonating root on the supercomputer and hadn't told anyone that I knew the root password when I shouldn't. This could lead to a misunderstanding, with the company thinking I may have been trying to sabotage/steal trade secrets.

I would explain that I was only trying to fix the high speed network due to the upcoming demonstration to the clients. I would say I made a judgement call to fix the network due to the potential significant loss in funding for the company and this demonstration was my responsibility. When I say how I obtained the root password, I would be sure to convey that "Trinity" did not give me the password knowingly (and that it should probably be changed from "12345"). After attempting to justify that my actions were done for the good of the company, I would then bring up the files I found.

Since I don't know what the files actually contain nor do I know "Trinity's" intentions there's not much more I can do about this. It's possible she's meant to have that access to our company's trade secrets. And as for the other company's files, I have no way of knowing how that information was obtained so I don't know if any "theft" has taken place. And again that's assuming it is what I think it is.

7. `enscript --header='$n %D $C|$%|Tyler Punch'`
`exam01.txt -o temp | ps2pdf temp Punch-Tyler-ECE331-EX01.pdf`