

Midterm #1 -- open book section

The exam is to be turned in at 4:20 AM. Work the closed book section first and turn it in before you consult your books and notes to work on the open book section.

There are seven questions. Each is worth 10 points. Some questions are very easy.

In the first three problems, to write regular expressions that can be used with `egrep` to match lines within a file.

- (1). Write a regular expression that matches lines containing the string ```Unix forever```.
- (2). Write a regular expression that will match all lines that start with the character ```A```, end with the character ```z```, and contain only upper case letters.

- (3). Suppose a file contains a list of computer names, *e.g.*,
`uncavx.unca.edu`
`expo.lcs.mit.edu`

Write a regular expression that matches all lines containing the field ```cs```. Your expression should be able to match

```
cs.uncc.edu
ivy.cs.unca.edu
math.prague.cs
```

but should not match

```
physics.ncsu.edu
```

In the next two problems, you give examples of using `find`.

- (4). Show how to use the `find` command to list all files containing the string ```Hi Bob```.
- (5). Show how you would use the `find` command to print on a line printer all `c` files, *i.e.*, files ending with `.c`, that are either less than 1000 characters long or owned by you.

And, in the last two problems, you write shell scripts.

- (6). Write a shell script that anyone can run by typing something like
`itshot 82`

which will record in a file the script's argument, the time (obtained from `/bin/date`), and the name of the person making the observation (obtained from `/usr/ucb/whoami`). To get complete credit on this problem, you need to do some error handling.

- (7). Write a shell script that takes a single integer n as an argument and computes 2^n , the result of multiplying 2 by itself n times. By the way, the `expr` program does not have an exponentiation operator. You'll have to use multiplication (or, sigh, addition).