Midterm 2–April 10, 1989 Closed book section (64 points)

The exam is to be turned in at 2:50 pm. Work the closed book section first and turn it in before you consult your books and notes to work on the open book section. For the closed book section, write your answers on the exam itself. For the open book section, write your answers on separate pieces of paper.

University regulations require that you sign the following pledge on the first page of your turned-in exam.

I have neither received nor given any unauthorized aid on this exam.

Problem 1. (24 points–4 points each)

Give short definitions (one or two phrases or sentences) of the following terms.

context switch

page

region

round robin

time slice

u area (user area)

Problem 2. (16 points-4 points each)

Give a brief description of what the following UNIX system calls do at the user level. You don't need to describe the implementation!

bind(sd, address, length)

exit(status)

nice(increment)

signal(signum, function)

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Problem 3. (1 point)

Name a patented feature of the Unix operating system.

Problem 4. (9 points)

Name six (6) *different* system calls the shell would use in executing the following command:

% man csh | grep cd > foo

Explain briefly how these systems calls are used. (By they way, there are at least eight that are needed.)

Problem 5. (4 points)

Suppose a C program starting with the following header:

```
main(argc, argv)
int argc;
char *argv[];
```

is compiled and the compiled code is stored in the file **surely**. If the command:

% surely you remember

is executed, what are the values of argc and the array elements of argv?

Problem 6. (6 points)

How are signals and interrupts similar? How are signals and interrupts different?

Problem 7. (4 points)

Name two bad things that can happen to datagrams?