CS-701 Lecture 18

April 5, 2001

Exam Results

Creating/Overwriting a File

```
#include <fcntl.h>
#include <sys/stat.h>
#include <sys/types.h>
int open (
        const char *path,
        int oflag [ ,
        mode_t mode ]      );
int creat (
        const char *path,
        mode_t mode );
```

The following two function calls are equivalent:

```
creat(path, mode);
open(path, O_WRONLY | O_CREAT | O_TRUNC, mode);
```

File Access Flags

The file access flags are as follows:

O_RDONLY
The file is open for reading only.

O_WRONLY
The file is open for writing only.

O_RDWR
The file is open for reading and writing.

Exactly one of the file access values (O_RDONLY, O_WRONLY, or O_RDWR) must be specified. If none is set, O_RDONLY is assumed.

File Status Flags

O_CREAT

If the file exists, this flag has no effect except as noted under O_EXCL. If the file does not exist, a regular file is created with the following characteristics:

The owner ID of the file is set to the effective user ID of the process.

The group ID of the file is set to the group ID of its parent directory.

O_EXCL

If O_EXCL and O_CREAT are set, the open fails if the file exists.

O_TRUNC

If the file does not exist, this flag has no effect. If the file exists and is a regular file, and if the file is successfully opened O_RDWR or O_WRONLY: The length of the file is truncated to 0 (zero). The owner and group of the file are unchanged.

O_APPEND

If set, the file pointer is set to the end of the file prior to each write.

Mode Values

- rwx rwx rwx
  - Read, Write, Execute permissions for User, Group, Other ("world")
  - Usually given as an octal number as the last argument to *open()* or *creat().*
  - Subject to umask value.