Project 3: Filesystem System Calls

For this assignment, you have to implement the filesystem calls: `Open()` `Read()` `Write()` and `Close()`. The system call `Create()` will be given as an example for future references in your code to complete the entire assignment. The semantics of these calls are specified in `syscall.h`

You should extend your file system implementations to handle the console as well as normal file. To support the system calls that access the console device, you will probably find it useful to implement a `SynchConsole` class that provides the abstraction of synchronous access to the console. However, this is not a strict requirement if you feel an alternate implementation is easier for you. The file `progtest.cc` has the beginning of `SynchConsole` implementation.

Required Output Prints

In order for us to see how your program works, some debugging information must be added in your code. You should print out the following information: Which system call is called? Whenever a system call is invoked, print:

`System Call: [pid] invoked [call]`

where [pid] is the identifier of the process (SpaceID) and [call] is the name of one of the system calls that you had to implement. Just give the name without parentheses (e.g., Create, Write).

Assumptions

If something is not precisely specified, we expect you to take a reasonable assumption, clearly explain it in report, and proceed with your implementation.

What to Submit

You should include a file `under code/reports/project3.txt` that *explains how you design the code* and *how your code works*, and *how to run tests.* You should also *indicate what does not work* and *explain your efforts* in order to get partial credits. Also, do not forget to put the *name of your group* in the writeup file. Submit the tgz archive of your code directory as specified in the instructions below. As always, you can submit multiple times. We will use the last version you submit for grading. However, make sure that you keep the name of the turnin file as proj3.tgz for all your uploads.

Turn in Instructions

- Put your report in `code/reports/project3.txt` It should be in plain ascii. In other words, DO NOT use any fancy document writers (e.g. MS Word). You may use vi or emacs or other basic editors.
- Archive and compress the compiled nachosdir (top-level) directory structure (This directory structure should also contain your report, project3.txt). Run the following command:

tar c nachosdir | gzip > proj3.tgz

- Upload proj3.tgz. The name of the file you will upload **must be** proj3.tgz
- All Done!