

CS372 Operating System

HW2

3.6 Describe the differences among short-term, medium-term, and longterm scheduling.

3.7 Describe the actions taken by a kernel to context-switch between processes.

3.8 Construct a process tree similar to Figure 3.9. To obtain process information for the UNIX or Linux system, use the command `ps -ael`. Use the command `man ps` to get more information about the `ps` command. The task manager on Windows systems does not provide the parent process id, yet the processmonitor tool available from technet.microsoft.com provides a process tree tool.

3.9 What are the pid values? Run the following code to prove your guess. Submit the result of the screen shot.

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

int main()
{
    pid_t pid, pid1;

    pid = fork();

    if (pid < 0){
        printf(stderr, "fork failed");
        return 1;
    }
    else if (pid == 0){
        pid1 = getpid();
        printf("child: pid = %d", pid);
        printf("child: pid1 = %d", pid1);
    }
    else {
        pid1 = getpid();
        printf("parent: pid = %d", pid);
        printf("parent: pid1 = %d", pid1);
        wait(NULL);
    }
    return 0;
}
```