CIS 415 Operating Systems

Project 2 Report Collection

Submitted to:

Prof. Allen Malony

Author:

*Elias Faris*

*efaris*

*951647865*

**Report**

**Introduction**

This project we launch a pool of sub- processes to execute commands from an input file. For part one we had to have our function read our input file then execute those commands all running together. In part two, we had the running processes in a schedular mannar at certain times that they shared. In part three we had to implement a round robin type of schedular which starts a process then alarms it which then stops then continues to the next process. Before it ends it has to go to each process once then will go back to process 1 and will skip over the finished processes. Then in part 4 we are printing out our commands and we choose which information we find important from the processes.

**Background**

What I noticed is that using WIFEXITED() gave me the wrong output and with the time I had, I just used sigwait(). With sigwait I got the correct output and I found out really understanding how RR is used helps out a lot. The difficult part of the RR is knowing when to stop the round robin and what held me back was having SIGUSR1 in my code. After I did some reading and understood SIGUSR1 I started to put each peice of the RR together. I found that WNOHANG is how to tell if a process is running or not which helped out a lot. I just wish I had more time to go through each part deeply and understand more.

**Implementation**

For my implementation, I didn't have much trouble implementing part1 and part2 but when I implemented part3 I had a lot of trouble, when I ran my code after I thought I did it correctly. On the terminal I kept getting a [4]+ stopped. I wasn't sure what the problem was until I realized I was using my SIGSTOP and SIGCONT incorrectly and also my indexing was off. Then I added a couple more lines of code and changed some code and finally was able to get it to work. But this was the hardest part of the project in my opinion. Part4 was just trying to get the printing correct which I actually learned a lot from. I wish they touched on part3 more in the lab, with better examples using sigwait() and WIFEXITED(). I also wish I had more time, it has been a busy week for most of us with midterms and projects.

**Performance Results and Discussion**

My performance for part1, part3, part3 were good, but my performance for part4 was not good. I was confused on what to do and how to do it. I thought it was a good learning expierence but I just ran out of time. I have had midterms for all my other classes this whole two weeks and only had enough time to implement part1, part2, part3. Please take it easy on me for part4 I only wrote what I could do with the time I had. Also for part3 I couldn't figure out how to use WIFEXITED() function. I wish in lab we touched more on this function. I tried using this and I would get the wrong output. I decided it was best not to use WIFEXITED() with the time I had and due to what I knew about the function. I saw the piazza post and still found it confusing and I thought it was worth more to get it working than using that function.

**Conclusion**

I learned a lot from this project, one thing was how to start new processes and how to schedule them using round robin. I think this is a great project because you learn a lot even though it is challenging. I discovered what waitpid() , WIFEXITED() do and return. Also what WNOHANG does and I found that doing research online. I found it hard to understand what part4 wanted us to implement. I knew it was for learning purposes but this project took me a lot of time to understand and I didn't have much time to implement part4.