

Operating System

Problems on Process Management

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Note: Try to complete as many as you can do, but at least 70% of these be completed and submitted in class in hand-written form. Problem set #3

1. Short questions:

- 1.1 Give examples of five file related commands of Unix OS.
- 1.2 What is command interpreter?
- 1.3 What is a system call?
- 1.4 A process can undergo what states in its life time?
- 1.5 How process is different from program?
- 1.6 How SJF is different from SRTF scheduling algorithm?
- 1.7 What is difference between static priority and dynamic priority scheduling algorithms?
- 1.8 How a thread is different from process?
- 1.9 Which scheduling algorithm has better response time: First-in first-out or Round robin?
- 1.10 Which algorithm has better turn-around time: Shortest job first or batch job?

Problem set #4

1. What are different user interfaces? Explain each in brief.
2. What data structures are maintained by an OS?
3. Explain the working of fork() system call in Unix/Linux?
4. Consider the following code in C:

```
#include <stdio.h>
#include <sys/types.h>
#include <stdlib.h>
#include <unistd.h>
int main(){
    printf("Hello\n");
    fork();
    fork();
    printf("Helloooo\n");
return 0;
}
```

Explain, how many “Hello” and “Helloooo” are printed?

Problem set #4...

5. Explain the life cycle of a process, from its creation to completion. Assume that the process is running in round robin fashion.
6. What are different user interfaces? Explain each in brief and discuss their advantages and disadvantages.
7. Draw the diagram of PCB and explain its working.
8. How many processes are created?

```
int main()
{
fork();
fork();
fork();
return 0;
}
```

9. Describe the differences among short-term, medium-term, and long-term scheduling.