Indian Institute of Technology Jammu

Operating Systems (CS-3-08(MO))

Assignment 2

System Calls

Deadline: 11:59 PM, August 19, 2024

---

1. Submit all programs (system calls - read/write, open, create) done during the lab zip format.

2. Write a program using `fork()` system call to create three child processes, P_1, P_2, and P_3, of a parent process **P**. Print the process IDs with precise statements. [Hint: Read here.]

3. Write a program using `fork()` system call to create a hierarchy of three processes as **P** $\rightarrow P_1 \rightarrow P_2$, i.e., **P** is the parent process of P_1, and P_1 is the parent process of P_2. Print the process IDs with precise statements. [Hint: Read here.]

4. Write a program using `fork()` to create two child processes. The parent process waits for the child processes to finish and prints "My children finished the task" upon completion. Use `wait()` system call to write the program. [Hint: Read here.]

5. Write a program using `fork()` system call to create a parent-child process relationship and print the following statements:

   A) Process ID of Parent (P): $< pid\_parent >$

   B) ID of P's Child (P_1): $< pid\_child >$

   C) Process ID of Child (P_1): $< pid\_child >$

   D) Parent ID of Child P_1: $< pid\_parent >$

   • Use the `wait()` system call to print the above statements in the following order: A, C, D, B. [Hint: Read here.]

Submission guidelines: Submit all the codes in `<RollNo_FName_AssignmentNo>.zip` format.

Best wishes