CS3510 Operating Systems 1
Report

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1 Design Of the program

- The code to write and read from the shared memory is written in the same C file.
- Sufficient size of the shared memory object is allocated so that all the collatz number can be accomodated.
- After the fork() command , an if statement is used so as to separate parent and child processes .
- wait command is added so that the parent waits for the child process to get completed.
- A separate function is created to compute the collatz numbers and write it to the shared memory.
- collatz numbers are converted to strings before writing it to the shared memory.
- The pointer to the shared memory object is suitably incremented.
- After the child process ends , a read only object of the shared memory is created and the data from it is read and printed out.
- The shared memory object is removed from memory after the execution of the program.

2 Analysis Of the Output

- The Parent process starts first , and when the fork is created , the parent process waits for the completion of child process and then outputs the read values from the shared memory.
- Only the child process computes the collatz numbers and writes it in a sequential manner to the shared memory .After this process completes , the parent reads from the shared memory and writes it to the terminal in a sequential manner.For this reason no jumbling of the output occurs.