CS 452 Project -- Simulation: Token-Ring Communication

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Idea of how project will run:

1. **run ./makeFile.exe**

2. **ask use for length of token ring, val word needs to go to, and word, and display users input and test values**

3. **Test that the values are valid**

4. **idea of output:**

PID 1111 – Process 1
I wrote: value

_____
PID 1112 – Process 2
I Read: value
I write: value

_____
PID 1113 – Process 3
I Read: value
I write: value

_____
PID 1114 – Process 4
I Read: nothing
I write: nothing

_____
Enter process ring length, process Word gets sent to, word:

5. **To exit, user types ^C, show that all PIDs get closed**
   Enter process ring length, process Word gets sent to, word: ^C

   PID 1111 shutting down
   PID 1112 shutting down
   PID 1113 shutting down

PID 1114 shutting down
How it works in my head:
In the program I parse user input to get the length of the token ring (X), where the message needs to get sent to, and the word.
After the program creates X amount of PIDs along with piping the previous write to the current read.
then loops???

---

version 2:

I was able to correctly spawn the right number of children asked by user, but had issues making the pipes.

```
How many Processes? 5
Where does message go? 2
5 children
Parent = 59845
Process (59846)-(PPID: 59845)
read message:
             ?1_
write message: apple

Process (59847)-(PPID: 59845)
read message:
             ?1_
write message: apple

Process (59848)-(PPID: 59845)
read message:
             ?1_
write message: apple

Process (59849)-(PPID: 59845)
read message:
             ?1_
write message: apple

Process (59845)-(PPID: 59841)
read message: apple

write message: apple

Process (59850)-(PPID: 59845)
read message:
             ?1_
write message: apple
```

version 5:

```
What is message? apple
How many Processes? 5
Where does message go? 3
Parent = 2890
----------------------------------------
INITIAL Process 1 (2891)-(PPID: 2890) write message: apple

Process 5 (2895)-(PPID:1) read message:
                                        ?1_Process 5 (2895)-(PPID:1) write message:
                                                                                  ?1_
Process 4 (2894)-(PPID:1) read message: apple
Process 4 (2894)-(PPID:1) write message: apple

Process 3 (2893)-(PPID:1) read message: apple
Process 3 (2893)-(PPID:1) write message: apple

Process 2 (2892)-(PPID:1) read message: apple
monicaklosin@MacBook-Pro-13-Monica:~/Desktop/GoogleDocs/GVSU/Fall 2020/CIS452/Operating-S
```

I had it reading backwards for some reason, I wasn't able to retrieve how I did this version in time to submit this version (rip version).

version submitted:

```
What is message? apple
How many Processes? 5
Where does message go? 2
Parent = 11242
----------------------------------------
INITIAL Process 1 (11244)-(PPID: 11242) write message: apple

Process 5 (11248)-(PPID:1) read message:
                                      ?1_Process 5 (11248)-(PPID:1) write message:
                                                                                ?1_
Process 4 (11247)-(PPID:1) read message:
                                      ?1_Process 4 (11247)-(PPID:1) write message:
                                                                                ?1_
Process 3 (11246)-(PPID:1) read message:
                                      ?1_Process 3 (11246)-(PPID:1) write message:
                                                                                ?1_
monicaklosin@MacBook-Pro-13-Monica:~/Desktop/GoogleDocs/GVSU/Fall 2020/CIS452/Operating-S
ken-ring-project$
```

it is broken. I am not sure what I did, but that is how I have it now at the time it is due.