Assignment Summary

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1. Solution summary

When I doing the assignment, I solved the problem by dividing the problem to sub-problems and solved each in this order:

1) What is shared memory?

Reference: https://en.wikipedia.org/wiki/Shared_memory

In this assignment, shared memory occurs among two programs/processes, which is the IPC(inter process communication)

2) How to implement IPC in C

Reference: https://users.cs.cf.ac.uk/Dave.Marshall/C/node27.html

C provide library classed under<sys/ipc.h> <sys/shm.h> to support IPC. Its basic idea is keep a shared memory defined by a same key, and attached the data space to this shared memory, then when operate this data space, the update is visible by another program which also shared this memory.

3) Logic of this assignment

>set up a shared memory for processor and receiver.

>receiver get input, determine input, put input to shared memory and wait until processor finish processing.

>processor read the shared memory and write to receiver, then signal receiver to resume.

And there are **problems I have met**:

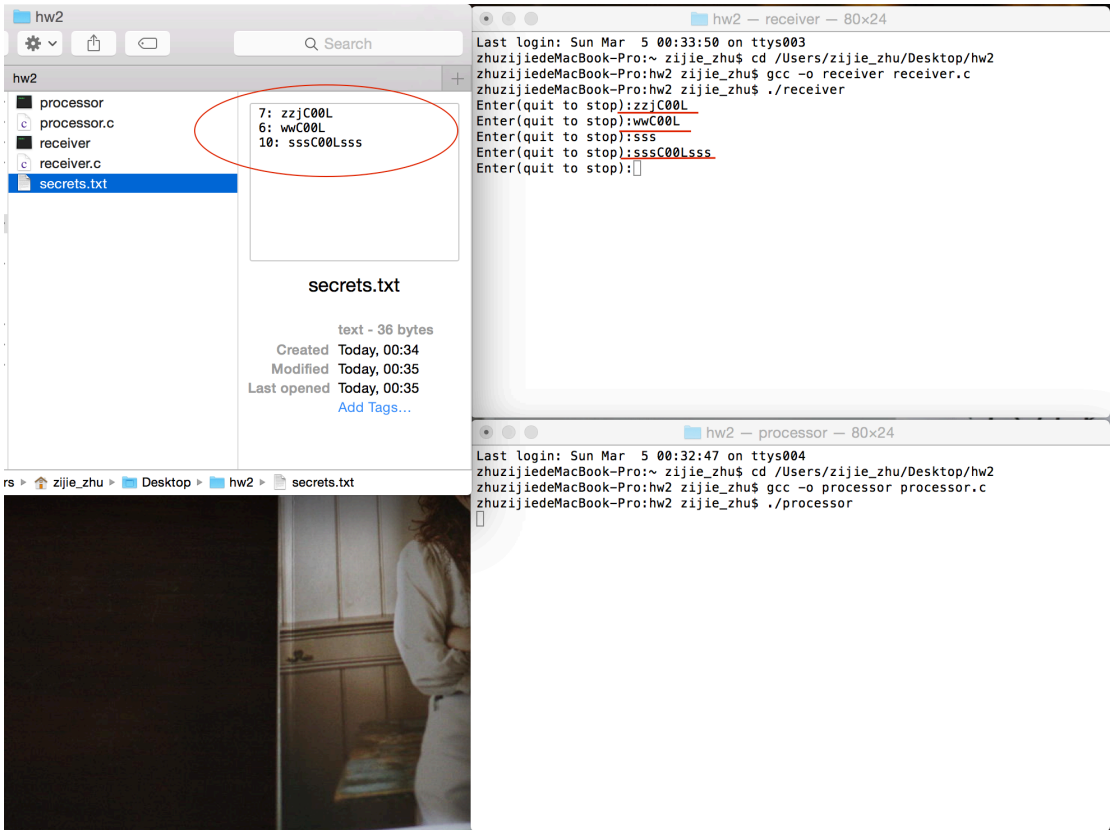
>how to determine input?->strstr()

>how to wait until processor has done?->use mark and sleep()

>how to mark the end of input string?->add mark char to the end

2. Test Screenshot

To be clear, I changed the type of out file to .txt when test.


hw2
Search
hw2
processor
processor.c
receiver
receiver.c
secrets.txt
7: zzjC00L
6: wwC00L
10: sssC00Lsss
secrets.txt
text - 36 bytes
Created Today, 00:34
Modified Today, 00:35
Last opened Today, 00:35
Add Tags…
rs ▸ zijie_zhu ▸ Desktop ▸ hw2 ▸ secrets.txt
hw2 — receiver — 80×24
Last login: Sun Mar 5 00:33:50 on ttys003
zhuzijiedeMacBook-Pro:~ zijie_zhu$ cd /Users/zijie_zhu/Desktop/hw2
zhuzijiedeMacBook-Pro:hw2 zijie_zhu$ gcc -o receiver receiver.c
zhuzijiedeMacBook-Pro:hw2 zijie_zhu$ ./receiver
Enter(quit to stop):zzjC00L
Enter(quit to stop):wwC00L
Enter(quit to stop):sss
Enter(quit to stop):sssC00Lsss
Enter(quit to stop):
hw2 — processor — 80×24
Last login: Sun Mar 5 00:32:47 on ttys004
zhuzijiedeMacBook-Pro:~ zijie_zhu$ cd /Users/zijie_zhu/Desktop/hw2
zhuzijiedeMacBook-Pro:hw2 zijie_zhu$ gcc -o processor processor.c
zhuzijiedeMacBook-Pro:hw2 zijie_zhu$ ./processor