P536 : Assignment 2

Report

Group Members:

Rajasi Rane (Username : rrane)

Ankita Shetty (Username : shettya)

Q 1) Does your program output any garbage? If yes, why?

A. Yes, our program returns garbage values. Ideally, whatever the producer produces the consumer should consume and display it sequentially. But the consumer needs to output the consumed values for which it requires some machine cycles. So even though the values have been consumed, it is made to wait for the output command to execute and Are all the produced values getting consumed? Check your program for a small count like 20.display the value on the terminal. In the meantime, the producer continues to produce new values as it need not wait for any other command to execute. So, now these produced values cannot be consumed by the consumer at the same time since the consumer may be waiting for the output command to complete its execution. As a result the consumer executes the printf command with garbage values. Also, there can be a scenario where the consumer tries to consume a value that has not been produced wherein again the consumer displays garbage value.

Q 2) Are all the produced values getting consumed? Check your program for a small count like 20.

A. No, all the produced values are not getting consumed. In the case for a small count, the produces the values, however the consumer is not able to consume the produced values due to the output command's execution process (mentioned above). So, the consumer displays the second last or the last value produced.

Files created:

- prodcons.h
- xsh_prodcons.c
- producer.c
- consumer.c

Tasks performed by:

- Rajasi Rane : Implemented the producer and consumer function.
- Ankita Shetty: Created prodcons.h and xsh_prodcons.c files.

Both team members worked on creating this report and adding the help functionality to the command. Also modified the shprototypes file under include directory and shell.c under shell directory to add ‘prodcons’ as a command.

References:

- Operating System Design: The Xinu Approach, 2E