Lab 2

Write your own code in the main.c in the system directory in the xinu OS to perform the following:

You need to create two processes with any names such as m1 and m2 or signaler and waiter. One process prints numbers and the other process prints a sentence such as "wow I am running". At the beginning, the first process runs for 21 times to print 21 numbers then it will stop due to wait for semaphore. Then the other process will run to print its sentence. Then you are required to run the first process to print only 5 numbers not 21 anymore, then stop the first process after printing 5 numbers and run the second process to print its sentence once and so on.

In other words,

Declare two processes (waiter and signaler)

Declare semaphore (sem)

Declare two process ids (wpid and spid for the two processes waiter and signaler, respectively)

Initiate the (sem) with 20

Create waiter and signaler processes

Exit the main function.

In the signaler function, print (“signaler is running \n”) and continuously signal the (sem) to increase its number by 5.

In the waiter function, increment a counter (i) from 1 to 2000, print the counter, and after the first 21 counts, wait (sem).

When you wait (sem), this will idle the waiter process and ready the signaler process.

You should make sure that waiter process cannot be idled by any other process. It can be only idled by itself.

You should manage the signaler process after finishing the 2000 loops in the waiter process. Think what should be done with the signaler process after exit the waiter process.