

HW1

1.1.

P1	P2	X =
shared int x;		N/A
	shared int x;	N/A
x = 10;		10
while (1) {		10
	x = 10;	10
	while (1) {	10
x = x - 1;		9
	x = x - 1;	8
x = x + 1;		9
if (x != 10)		9
	x = x + 1;	10
printf("x is %d", x)		

This successfully prints "x is 10".

1.2.

P1	P2	X =
shared int x;		N/A
	shared int x;	N/A
x = 10;		10
while (1) {		10
	x = 10;	10
	while (1) {	10
x = x - 1;		9
	x = x - 1; load 9 sub 8 ->>>INTERRUPT	9
x = x + 1;		10
	x = x - 1; store 8	8
if (x != 10)		8
printf("x is %d", x)		8

Stephen Sallas
sms0107
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2. A binary semaphore can only have an integer value range between 0 and 1, while a general semaphore can have an integer value over an unrestricted domain.
3. A monitor is an abstract data type that serves as a construct to help with process synchronization in a program. Monitors can only access internal variables by code within the procedure, and most importantly only allow one process to be active within itself at a time.
4. Only two operations can be performed on a semaphore, wait() and signal(). These are sometimes abbreviated to P() and V() respectively.