Gruppe **20**
Betriebssysteme und Systemsoftware

Patrick Arens, 377536
Georg Manthey 376854
Benedikt Gerlach, 376944

Übung 5

Aufgabe 5.1

a)

Thread 0	Thread 1	Variable (flag = false)
while (true) {		
while (flag != false) {		
	while(true) {	
	while (flag != false)	
flag = true		flag = true
	flag = true	flag = true
critical_section()		
	critical_section()	

b)

Thread 0	Thread 1	Variable (counter = 0)
	while (true) {	
{	counter++	counter = 1
	if (counter == 3) {	
	}	
	}	
	while (true) {	
{	counter++	counter = 2
	if (counter == 3) {	
	}	
	}	
	while (true) {	
{	counter++	counter = 3
	if (counter == 3) {	
	critical_section	
while (true) {		
counter++		counter = 4
if (counter == 5) {		
}		
}		
while (true) {		
counter++		counter = 5
if (counter == 5) {		
critical_section()		

c)

Thread 0	Thread 1	Variable (mutex (unlocked))	Variable (mutex2 (unlocked))
Monitor.Enter(mutex)		mutex (locked by thread 0)	
	Monitor.Enter(mutex)		mutex2 (locked by thread 1)

Thread 0	Thread 1	Variable (semaphore [counter: 0])
while (true) {		
	while (true) {	
	if (semaphore.Wait(500)) {	
	semaphore.Release()	semaphore [counter: 1]
semaphore.Wait();		semaphore [counter: 0]
	}	
	}	
	while (true) {	
	semaphore.Release()	semaphore [counter: 1]
	while (true) {	
	if (semaphore.Wait(500)) {	semaphore [counter: 0]
	critical_section()	
critical_section()		