CSC 369 Exercise 8

- 1. Output is 5, final value of x is 5: b1, a1, a2
  - Output is 5, final value of x is 7: Not possible
  - Output is 7, final value of x is 5: Not possible
  - Output is 7, final value of x is 7: a1, b1, a2

Thread A	Thread B
a1: x = 5	b1: x = 7
a2: print x	

Select the order of instructions to satisfy the outcomes in the table below. Select "not possible" if the outcome is not possible.

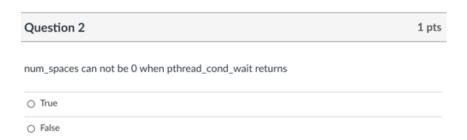
	Final value of x is 5	Final value of x is 7
Output is 5	[ Select ]	[ Select ]
Output is 7	[ Select ]	[ Select ]

2. False. It is determined by other external conditions.

Select all the true statements about the following code. Multiple threads may be executing code using these variables at the same time.

```
// assume all variables are correctly initialized

pthread_mutex_lock(&mutex);
while(num_spaces == 0) {
    pthread_cond_wait(&no_space, &mutex);
}
num_spaces++;
pthread_mutex_unlock(&mutex);
```



3. False. Lock is released at the time when thread is blocked, and regained when it returns from blocked state. (I should double confirm on this question)

	The mutex is held by this thread while it is blocked in pthread_cond_wait.	
	○ True	
	False	
4. True.		
	The mutex is held by this thread whenever it checks the value	
	of num_spaces	
	○ True	
	○ False	
	e lock is regained when thread exits out of blocked state (). Since the locan write a thread has exited the blocked state put by pthread_cond_wair	_
	The mutex is held by this thread when the while loop	

terminates.

True

O False