

Exercise 8: Locks and Condition Variables

Started: Oct 21 at 8:28pm

Quiz Instructions

Question 1

1 pts

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

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] ▼

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);
```

Question 2**1 pts**

num_spaces can not be 0 when pthread_cond_wait returns

- ☐ True
- ☐ False

Question 3**1 pts**

The mutex is held by this thread while it is blocked in pthread_cond_wait.

- ☐ True
- ☐ False

Question 4**1 pts**

The mutex is held by this thread whenever it checks the value of num_spaces

- ☐ True
- ☐ False

Question 5**1 pts**

The mutex is held by this thread when the while loop terminates.

☐ True☐ False**Question 6****1 pts**

It would be safe to put the `num_spaces++` line after the `pthread_mutex_unlock`. In other words, we would get the correct result regardless of the ordering.

☐ True☐ False

Not saved

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