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

Correct Solution

a1, a2, b1

- **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 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]

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);
```

Question 2 1 pts

num_spaces can not be 0 when pthread_cond_wait returns

- ○ True
- ○ False

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)

4. True.

5. True. The lock is regained when thread exits out of blocked state (). Since the loop exited,we can write a thread has exited the blocked state put by `pthread_cond_wait`

6. False. If put inside the while loop, then multiple threads would access and write the variable at the same time causing value to increase incorrectly.