

9. Q6

```
$ python ./x86.py -p test-and-set.s -R ax,bx -a bx=2 -M mutex,count -c -i 6
```

mutex count		ax	bx	Thread 0	Thread 1	mutex count		ax	bx	Thread 0	Thread 1
0	0	0	2			1	1	1	2		1004 mov count, %ax
0	0	1	2	1000 mov \$1, %ax		1	1	2	2		1005 add \$1, %ax
1	0	0	2	1001 xchg %ax, mutex		1	2	2	2		1006 mov %ax, count
1	0	0	2	1002 test \$0, %ax		0	2	2	2		1007 mov \$0, mutex
1	0	0	2	1003 jne .acquire		0	2	2	1		1008 sub \$1, %bx
1	0	0	2	1004 mov count, %ax		0	2	2	1		1009 test \$0, %bx
1	0	1	2	1005 add \$1, %ax		0	2	1	1	----- Interrupt -----	----- Interrupt -----
1	0	0	2	----- Interrupt -----	----- Interrupt -----	0	2	1	1	1003 jne .acquire	
1	0	1	2		1000 mov \$1, %ax	1	2	1	1	1000 mov \$1, %ax	
1	0	1	2		1001 xchg %ax, mutex	1	2	0	1	1001 xchg %ax, mutex	
1	0	1	2		1002 test \$0, %ax	1	2	0	1	1002 test \$0, %ax	
1	0	1	2		1003 jne .acquire	1	2	2	1	1003 jne .acquire	
1	0	1	2		1000 mov \$1, %ax	1	2	2	1	1004 mov count, %ax	
1	0	1	2		1001 xchg %ax, mutex	1	2	2	1	----- Interrupt -----	----- Interrupt -----
1	0	1	2	----- Interrupt -----	----- Interrupt -----	1	2	1	1		1010 jgt .top
1	1	1	2	1006 mov %ax, count		1	2	1	1		1000 mov \$1, %ax
0	1	1	2	1007 mov \$0, mutex		1	2	1	1		1001 xchg %ax, mutex
0	1	1	1	1008 sub \$1, %bx		1	2	1	1		1002 test \$0, %ax
0	1	1	1	1009 test \$0, %bx		1	2	1	1		1003 jne .acquire
0	1	1	1	1010 jgt .top		1	2	2	1	----- Interrupt -----	----- Interrupt -----
0	1	1	1	1000 mov \$1, %ax		1	2	2	1		1000 mov \$1, %ax
0	1	1	2	----- Interrupt -----	----- Interrupt -----	1	2	3	1	1005 add \$1, %ax	
0	1	1	2		1002 test \$0, %ax	1	3	3	1	1006 mov %ax, count	
0	1	1	2		1003 jne .acquire	0	3	3	0	1007 mov \$0, mutex	
0	1	1	2		1000 mov \$1, %ax	0	3	3	0	1008 sub \$1, %bx	
1	1	0	2		1001 xchg %ax, mutex	0	3	3	0	1009 test \$0, %bx	
1	1	0	2		1002 test \$0, %ax	0	3	3	0	1010 jgt .top	
1	1	0	2		1003 jne .acquire	0	3	1	1	----- Interrupt -----	----- Interrupt -----
1	1	1	1	----- Interrupt -----	----- Interrupt -----	1	3	0	1		1001 xchg %ax, mutex
1	1	1	1	1001 xchg %ax, mutex		1	3	0	1		1002 test \$0, %ax
1	1	1	1	1002 test \$0, %ax		1	3	3	1		1003 jne .acquire
1	1	1	1	1003 jne .acquire		1	3	4	1		1004 mov count, %ax
1	1	1	1	1000 mov \$1, %ax		1	4	4	1		1005 add \$1, %ax
1	1	1	1	1001 xchg %ax, mutex		1	4	3	0	----- Interrupt -----	----- Interrupt -----
1	1	1	1	1002 test \$0, %ax		1	4	3	0	1011 halt	
1	1	0	2	----- Interrupt -----	----- Interrupt -----	1	4	4	1	----- Halt;Switch -----	----- Halt;Switch -----
						0	4	4	1		1007 mov \$0, mutex
						0	4	4	0		1008 sub \$1, %bx
						0	4	4	0		1009 test \$0, %bx
						0	4	4	0		1010 jgt .top
						0	4	4	0		1011 halt