```
PS C:\Users\Howar\OneDrive\桌面\OS ppc\107034003-ppc3> make clean
del *.hex *.ihx *.lnk *.lst *.map *.mem *.rel *.rst *.sym *.asm *.lk
PS C:\Users\Howar\OneDrive\桌面\OS ppc\107034003-ppc3> make
sdcc -c  testpreempt.c
testpreempt.c:31: warning 158: overflow in implicit constant conversion
sdcc -c  preemptive.c
preemptive.c:89: warning 85: in function ThreadCreate unreferenced function argument : 'fp'
sdcc  -o testpreempt.hex testpreempt.rel preemptive.rel
PS C:\Users\Howar\OneDrive\桌面\OS ppc\107034003-ppc3>
```

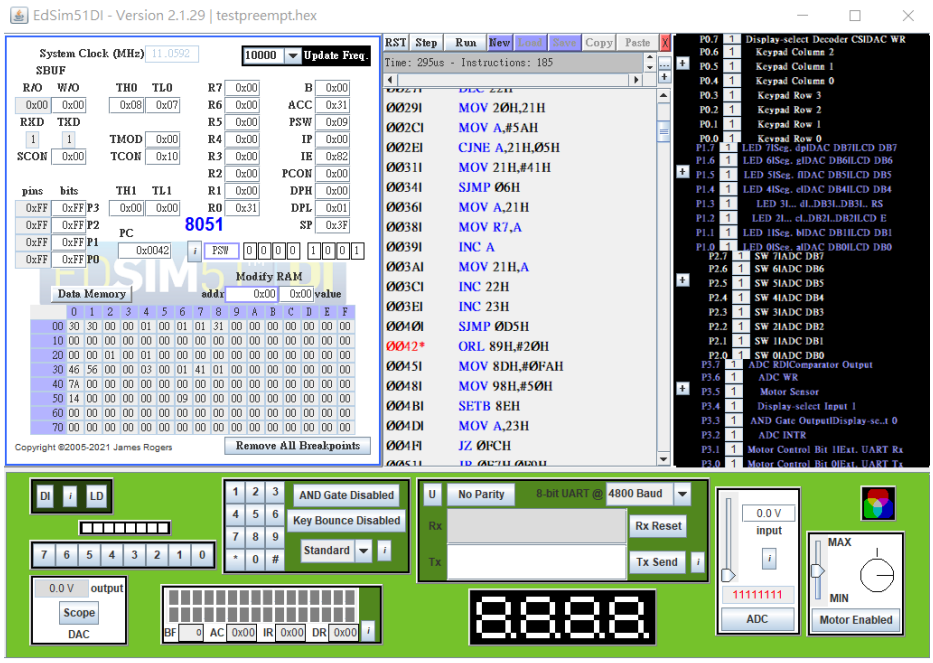
the address of functions

Value	Global	Global Defined In Module
00000014	_Producer	testpreempt
00000042	_Consumer	testpreempt
0000006B	_main	testpreempt
0000007D	__sdcc_gsinit_startup	testpreempt
00000081	__mcs51_genRAMCLEAR	testpreempt
00000082	__mcs51_genXINIT	testpreempt
00000083	__mcs51_genXRAMCLEAR	testpreempt
00000084	_timer0_ISR	testpreempt
00000088	_Bootstrap	preemptive
000000AE	_ThreadCreate	preemptive
0000013C	_ThreadYield	preemptive
0000019D	_myTimer0Handler	preemptive
00000223	_ThreadExit	preemptive

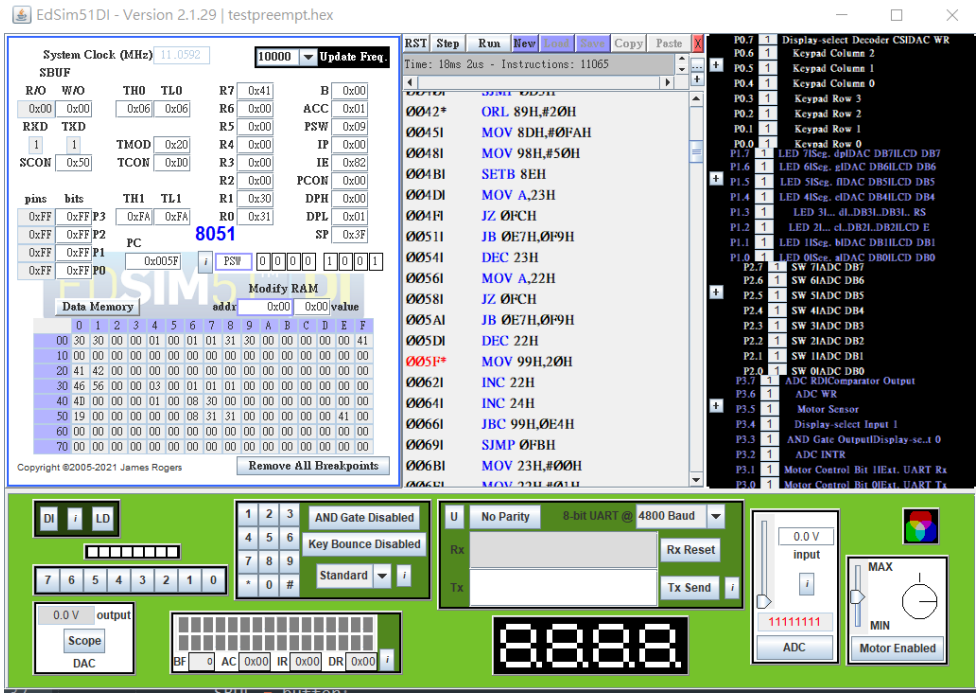
the address of variables

Value	Global	Global Defined In Modu
00000000	.__.ABS.	preemptive
00000020	_buffer	testpreempt
00000021	_input	testpreempt
00000022	_mutex	testpreempt
00000023	_full	testpreempt
00000024	_empty	testpreempt
00000030	_savedSP	preemptive
00000034	_bitmap	preemptive
00000035	_cur_threadID	preemptive
00000036	_count	preemptive
00000037	_temp	preemptive
00000038	_new_threadID	preemptive

Before executing consumer(0042), the values of the three semaphore at 22,23,24 (mutex,full,empty respectively) are same as the initial value(1,0,1)



When executing SBUF = buffer(MOV 99H, 20H) in the consumer, the values of semaphores become (0,0,0). Because the consumer is in the critical section,and hasn't consumed an input.



When executing buffer = input (MOV 20H, 21H) in the producer, the values of semaphores are also (0,0,0). Because the producer is in the critical section,and hasn't produced a new input to be consumed.