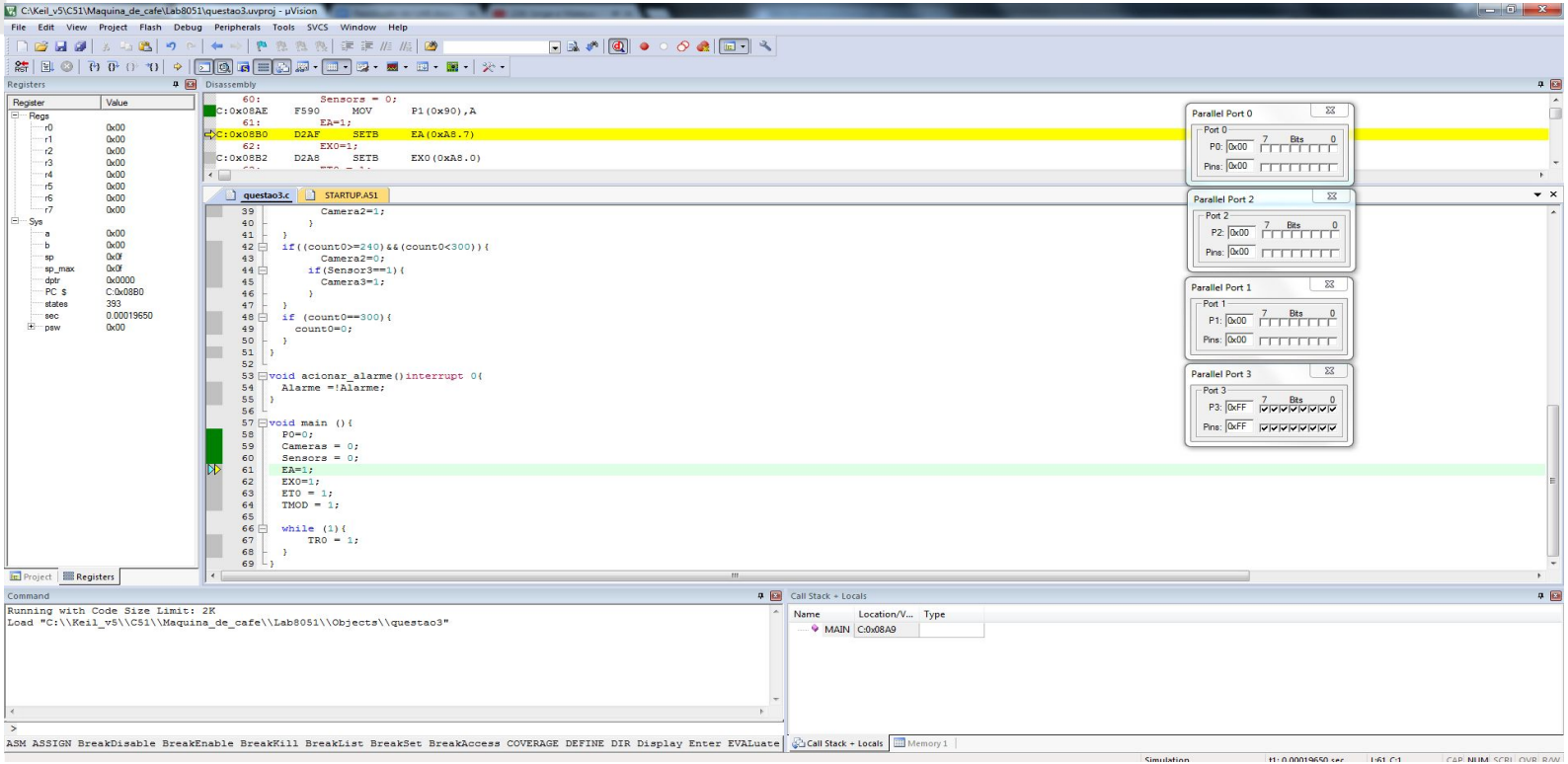
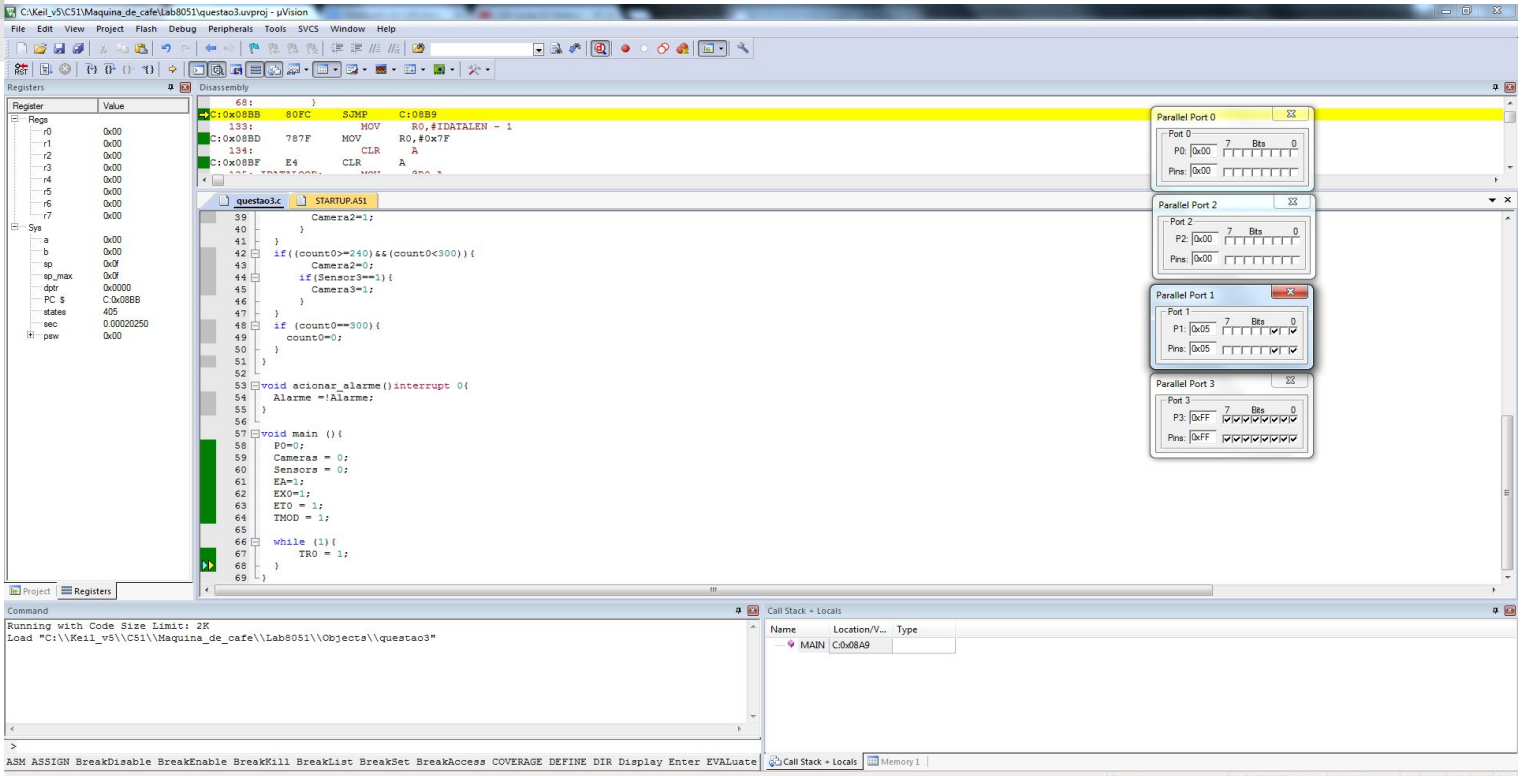
Questão 3

Etapas de execução do programa:

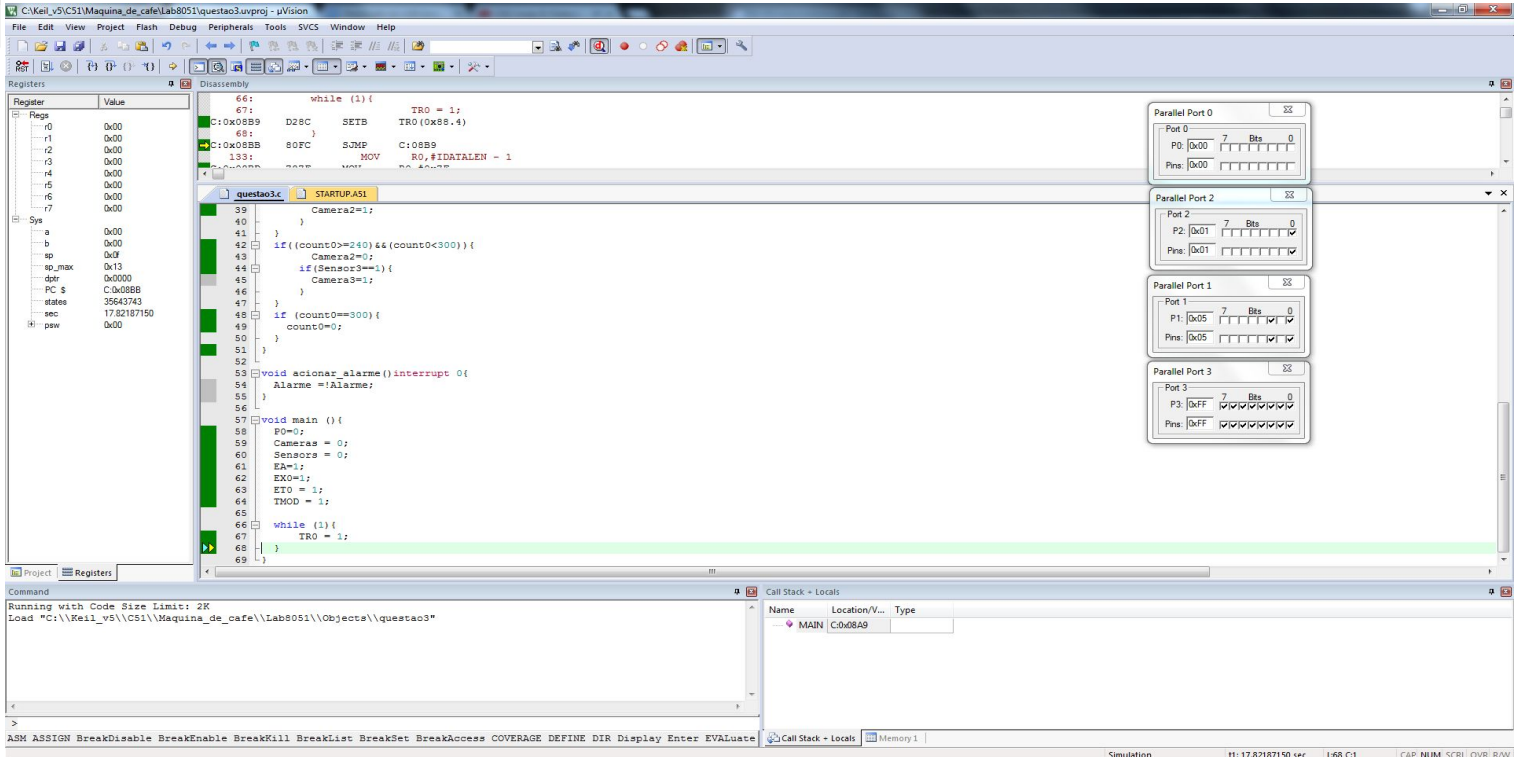
1. **No começo da execução, as portas P2, P1 e P0, recebem valor 0 (zero), e as interrupções, tanto interna quanto externa (porta P3.2) são acionadas.**

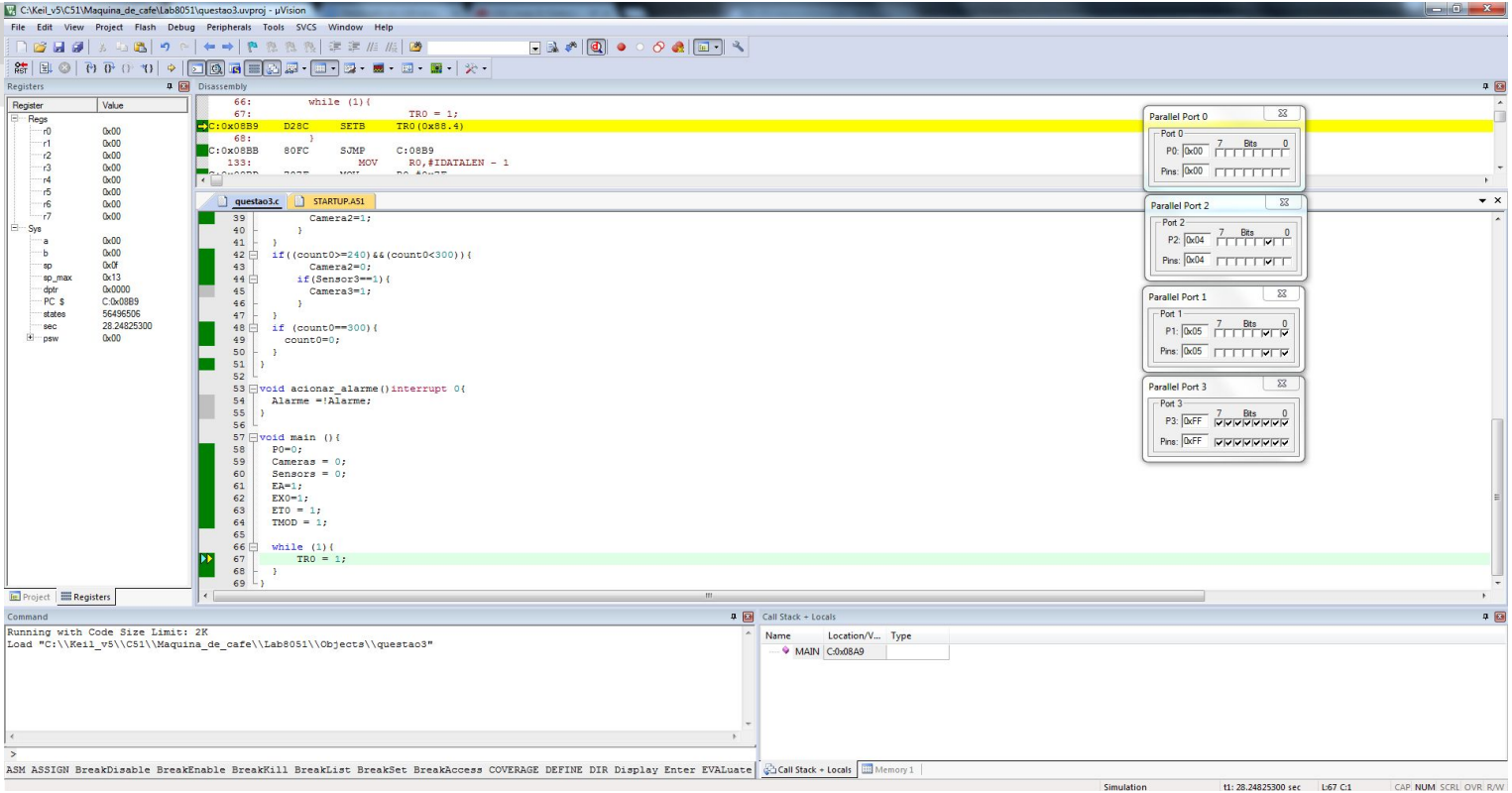


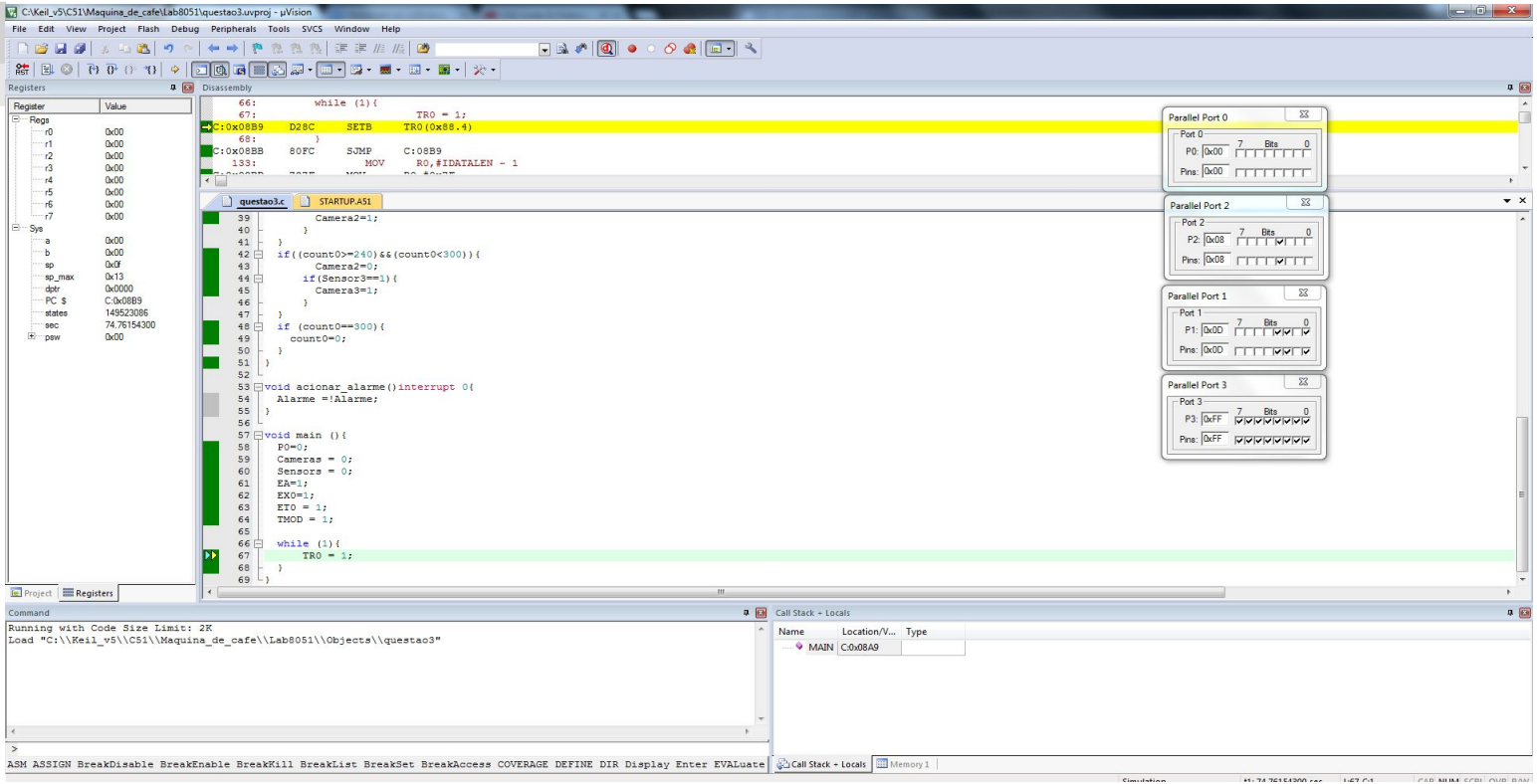
2. Quando as portas P1.0, P1.1, P1.2, P1.3 estão acionadas, significa que há alguém na sala.



3. Caso as portas P1.0, P1.1, P1.2 ou P1.3 estiverem ativas, então a porta P2 equivalente será acionada, para mostrar que a câmera desta sala está filmando.




C:\Keil_v5\C51\Maquina_de_cafe\Lab8051\questao3.uvproj - µVision
File Edit View Project Flash Debug Peripherals Tools SVCS Window Help
Registers
Register Value
Regs
r0 0x00
r1 0x00
r2 0x00
r3 0x00
r4 0x00
r5 0x00
r6 0x00
r7 0x00
Sys
a 0x00
b 0x00
sp 0x0f
sp_max 0x13
dptr 0x0000
PC $ C:0x08B9
states 56496506
sec 28.24825300
psw 0x00
Project Registers
Disassembly
66: while (1){
67: TR0 = 1;
C:0x08B9 D28C SETB TR0(0x88.4)
68: }
C:0x08BB 80FC SJMP C:08B9
133: MOV R0,#IDATALEN - 1
questao3.c
STARTUP.A51
39 Camera2=1;
40 }
41 }
42 if((count0>=240)&&(count0<300)){
43 Camera2=0;
44 if(Sensor3==1){
45 Camera3=1;
46 }
47 }
48 if (count0==300){
49 count0=0;
50 }
51 }
52
53 void acionar_alarme()interrupt 0{
54 Alarme =!Alarme;
55 }
56
57 void main (){
58 P0=0;
59 Cameras = 0;
60 Sensors = 0;
61 EA=1;
62 EX0=1;
63 ET0 = 1;
64 TMOD = 1;
65
66 while (1){
67 TR0 = 1;
68 }
69 }
Parallel Port 0
Port 0
P0: 0x00 7 Bits 0
Pins: 0x00
Parallel Port 2
Port 2
P2: 0x04 7 Bits 0
Pins: 0x04
Parallel Port 1
Port 1
P1: 0x05 7 Bits 0
Pins: 0x05
Parallel Port 3
Port 3
P3: 0xFF 7 Bits 0
Pins: 0xFF
Command
Running with Code Size Limit: 2K
Load "C:\\Keil_v5\\C51\\Maquina_de_cafe\\Lab8051\\Objects\\questao3"
ASM ASSIGN BreakDisable BreakEnable BreakKill BreakList BreakSet BreakAccess COVERAGE DEFINE DIR Display Enter EVALuate
Call Stack + Locals
Name Location/V... Type
MAIN C:0x08A9
Call Stack + Locals Memory 1
Simulation t1: 28.24825300 sec L:67 C:1
CAP NUM SCRL OVR R/W


C:\Keil_v5\C51\Maquina_de_cafe\Lab8051\questao3.uvproj - µVision
File Edit View Project Flash Debug Peripherals Tools SVCS Window Help
Registers
Register Value
Regs
r0 0x00
r1 0x00
r2 0x00
r3 0x00
r4 0x00
r5 0x00
r6 0x00
r7 0x00
Sys
a 0x00
b 0x00
sp 0x0f
sp_max 0x13
dptr 0x0000
PC $ C:0x08B9
states 149523086
sec 74.76154300
psw 0x00
Project Registers
Disassembly
66: while (1){
67: TR0 = 1;
C:0x08B9 D28C SETB TR0(0x88.4)
68: }
C:0x08BB 80FC SJMP C:08B9
133: MOV R0,#IDATALEN - 1
questao3.c STARTUP.A51
39 Camera2=1;
40 }
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42 if((count0>=240)&&(count0<300)){
43 Camera2=0;
44 if(Sensor3==1){
45 Camera3=1;
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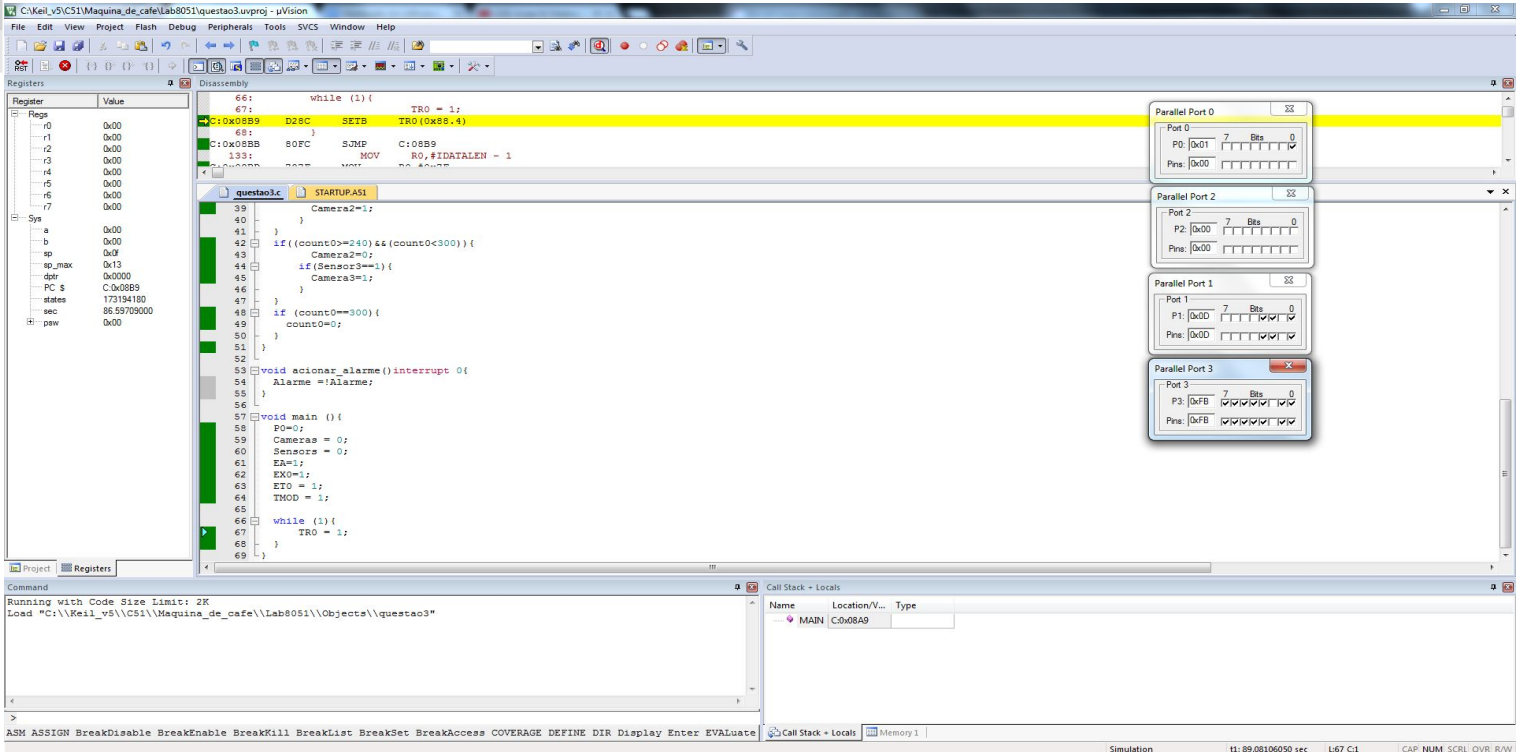
51 }
52
53 void acionar_alarme()interrupt 0{
54 Alarme =!Alarme;
55 }
56
57 void main (){
58 P0=0;
59 Cameras = 0;
60 Sensors = 0;
61 EA=1;
62 EX0=1;
63 ET0 = 1;
64 TMOD = 1;
65
66 while (1){
67 TR0 = 1;
68 }
69 }
Parallel Port 0
Port 0
P0: 0x00
Pins: 0x00
Parallel Port 2
Port 2
P2: 0x08
Pins: 0x08
Parallel Port 1
Port 1
P1: 0x0D
Pins: 0x0D
Parallel Port 3
Port 3
P3: 0xFF
Pins: 0xFF
Command
Running with Code Size Limit: 2K
Load "C:\\Keil_v5\\C51\\Maquina_de_cafe\\Lab8051\\Objects\\questao3"
ASM ASSIGN BreakDisable BreakEnable BreakKill BreakList BreakSet BreakAccess COVERAGE DEFINE DIR Display Enter EVALuate
Call Stack + Locals
Name Location/V... Type
MAIN C:0x08A9
Call Stack + Locals Memory 1

4. Se houver uma interrupção externa (alguém entrar na sala sem autorização), então o alarme (porta P0.0), será acionado.



5. Quando a interrupção for desativada o sistema volta a execução normal.