

Exercício 1:

System Clock (MHz)12.01▼Update Freq.

SBUF

R/O

W/O

TH0

TL0

R7

0x00

B

0x00

0x00

0x00

0x00

0x00

R6

0x00

ACC

0x00

RXD

TXD

TMOD

0x00

R5

0x00

PSW

0x00

1

1

TCON

0x00

R4

0x00

IP

0x00

SCON

0x00

PCON

0x00

R3

0x00

IE

0x00

pins

bits

TH1

TL1

R2

0x00

DPH

0x00

0xFF

0xFF

P3

0x00

0x00

0x00

0x00

R1

0x00

DPL

0x00

0xFF

0xFF

P2

0x00

0x00

0x00

0x00

R0

0x00

SP

0x07

0xFF

0xFF

P1

0x00

0x00

0x00

0x00

PSW

0

0

0

0

0

0

0

0

0xFF

0xFF

P0

0x00

0x00

0x00

0x00

PC

0x0046

8051

Data

Memory

addr

0x00

0x00

value

0

1

2

3

4

5

6

7

8

9

A

B

C

D

E

F

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Remove All Breakpoints

RST

Step

Run

New

Load

Save

CPY

Paste

BP

Time: 67us - Instructions: 65

0000| SETB C

0001| JC DESVIO

0003| CPL C

0004| MOV 20H.0,C

DESVIO:

0006| CPL C

0007| MOV 20H.0,C

O valor de 20H.0 após o programa em assembly será 0.

Exercício 2:

System Clock (MHz)12.01▼Update Freq.

SBUF

R/O

W/O

TH0

TL0

R7

0x00

B

0x00

0x00

0x00

0x00

0x00

R6

0x00

ACC

0x00

RXD

TXD

TMOD

0x00

R5

0x00

PSW

0x00

1

1

TCON

0x00

R4

0x00

IP

0x00

SCON

0x00

PCON

0x00

R3

0x00

IE

0x00

pins

bits

TH1

TL1

R2

0x00

DPH

0x00

0xFF

0xFF

P3

0x00

0x00

0x00

0x00

R1

0x01

DPL

0x00

0xFF

0xFF

P2

0x00

0x00

0x00

0x00

R0

0x06

SP

0x07

0xFF

0xFF

P1

0x00

0x00

0x00

0x00

PSW

0

0

0

0

0

0

0

0

0xFF

0xFF

P0

0x00

0x00

0x00

0x00

PC

0x000B

8051

Data

Memory

addr

0x00

0x00

value

0

1

2

3

4

5

6

7

8

9

A

B

C

D

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Remove All Breakpoints

RST

Step

Run

New

Load

Save

CPY

Paste

BP

Executed 0x000A: NOP | Time: 7us - Instruct

0000| MOV R0, #07h

0002| MOV R1, #00h

0004| DJNZ R0, CONTA

0006| SJMP SAIDA

0008| CONTA: INC R1

0009| SAIDA: NOP

Exercício 3:

O valor do registrador R1 será: 7 no final do código assembly, pois no loop a conta vai incrementando o valor no registrador enquanto vai decrementando o valor do registrador(0), quando o valor do registrador(0) chega a 0 ele para o laço de repetição.

Exercício 4:

System Clock (MHz)

SBUF

R/O	W/O	TH0	TL0	R7	0x00	B	0x00	
0x00	0x00	0x00	0x00	R6	0x00	ACC	0x00	
RXD	TXD			R5	0x00	PSW	0x00	
1	1	TMOD	0x00	R4	0x00	IP	0x00	
SCON	0x00	TCON	0x00	R3	0x00	IE	0x00	
				R2	0x00	PCON	0x00	
pins	bits	TH1	TL1	R1	0x07	DPH	0x00	
0xFF	0xFF	P3	0x00	0x00	R0	0x7D	DPL	0x00
0xFF	0xFF	P2				SP	0x07	
0xFF	0xFF	P1						
0xFF	0xFF	P0						

PC **8051**

PSW

Modify RAM

Data Memory value

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00	7D	07	00	00	00	00	00	00	00	00	00	00	00	00	00	00
10	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
20	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
30	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
40	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
50	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
60	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
70	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00

RST Assm Run New Load Save CPY Paste BP

File Aula_5_ex_4.asm saved.

ZERAR: CLR A

MOV R0, #127

ROT:

MOV @R0,A

DJNZ R0, ROT

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Remove All Breakpoints

Exercício 5:

System Clock (MHz) 12.0

1 Update Freq.

SBUF

R/O W/O TH0 TL0 R7 0x00 B 0x00

0x00 0x00 0x00 0x00 R6 0x00 ACC 0x00

RXD TXD R5 0x00 PSW 0x00

1 1 TMOD 0x00 R4 0x00 IP 0x00

SCON 0x00 TCON 0x00 R3 0x00 IE 0x00

R2 0x00 PCON 0x00

pins bits TH1 TL1 R1 0x07 DPH 0x00

0xFF 0xFF P3 0x00 0x00 R0 0x7D DPL 0x00

0xFF 0xFF P2 PC 8051 SP 0x07

0xFF 0xFF P1 0x0000 PSW 0 0 0 0 0 0 0 0

0xFF 0xFF P0 i

Modify RAM

addr 0x00 0x00 value

Data Memory

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00	7D	07	00	00	00	00	00	00	00	00	00	00	00	00	00	00
10	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
20	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
30	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
40	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
50	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
60	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
70	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00

Remove All Breakpoints

RST Assm Run New Load Save CPY Paste BP

COMP :

MOV A, R7

CLR C

SUBB A, R6

JNC ROT1

XCH A, R7

XCH A, R6

XCH A, R7

ROT1: SJMP \$

Instrução	OPCODE
MOV A,R7	EF
CLR C	C3
SUBB A,R6	9E
JNC R0T1	50

Instrução	OPCODE
XCH A,R7	CF
XCH A,R6	CE
XCH A,R7	CF
SJMP \$	80

Exercício 6:

System Clock (MHz) 12.0

1 Update Freq.

SBUF

R/O W/O TH0 TL0 R7 0x00 B 0x00

0x00 0x00 0x00 0x00 R6 0x00 ACC 0x00

RXD TXD R5 0x00 PSW 0x00

1 1 TMOD 0x00 R4 0x00 IP 0x00

SCON 0x00 TCON 0x00 R3 0x00 IE 0x00

R2 0x00 PCON 0x00

pins bits TH1 TL1 R1 0x52 DPH 0x00

0xFF 0xFF P3 0x00 0x00 R0 0x00 DPL 0x00

0xFF 0xFF P2 PC 8051 SP 0x07

0xFF 0xFF P1 0x01EB PSW 0 0 0 0 0 0 0 0

0xFF 0xFF P0 i

Modify RAM

addr 0x00 0x00 value

Data Memory

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00	00	52	00	00	00	00	00	00	00	00	00	00	00	00	00	00
10	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
20	EE	EE	EE	EE	EE	EE	EE	EE	EE	EE	EE	EE	EE	EE	EE	EE
30	EE	EE	EE	EE	EE	EE	EE	EE	EE	EE	EE	EE	EE	EE	EE	EE
40	EE	EE	EE	EE	EE	EE	EE	EE	EE	EE	EE	EE	EE	EE	EE	EE
50	EE	EE	00	00	00	00	00	00	00	00	00	00	00	00	00	00
60	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
70	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00

Remove All Breakpoints

RST Step|Pause|New Load Save CPY Paste BP

Time: 684us - Instructions: 634

0000| MOV R0, #50

0002| MOV R1, #20h

ROT:

0004| MOV @R1, #0EEh

0006| INC R1

0007| DJNZ R0, ROT

Exercício 7:

System Clock (MHz)

12.0

SBUF

1

Update Freq.

1

RST

Assm

Run

New

Load

Save

CPY

Paste

BP

Reset: PC = 0x0000

0x0000

R/O

W/O

TH0

TL0

R7

0x00

B

0x00

0x00

0x00

0x00

0x00

R6

0x00

ACC

0x00

RXD

TXD

TMOD

0x00

R5

0x00

PSW

0x00

1

1

0x00

0x00

R4

0x00

IP

0x00

SCON

0x00

TCON

0x00

R3

0x00

IE

0x00

0x00

0x00

R2

0x00

PCON

0x00

pins

bits

TH1

TL1

R1

0x00

DPH

0x00

0xFF

0xFF

P3

0x00

0x00

R0

0x00

DPL

0x00

0xFF

0xFF

P2

0x00

0x00

SP

0x07

0xFF

0xFF

P1

0x00

0x00

0xFF

0xFF

P0

0x00

0x00

PC

0x0000

PSW

0

0

0

0

0

0

0

0

0

0

8051

Modify RAM

Data Memory

addr

0x00

0x00

value

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
10	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
20	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
30	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
40	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
50	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
60	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
70	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00

Remove All Breakpoints

Exercício 8:

[illegible]

Exercício 9:

System Clock (MHz)12.01Update Freq.

SBUF

R/O0x00W/O0x00TH00x00TL00x00R70x00B0x00

0x000x00

R60x00ACC0x00

RXD1TXD1TMOD0x00R50x00PSW0x00

11

R40x00IP0x00

SCON0x00TCON0x00R30x00IE0x00

R20x00PCON0x00

pinsbitsTH1TL1R10x70DPH0x00

0xFF0xFFP30x000x00R00x00DPL0x00

0xFF0xFFP2PC8051PSW000000000000

0xFF0xFFP10x0082i

0xFF0xFFP0

000000

Data Memory

addr0x000x00value

0123456789A B C D E F

00007000000000008200000000000000

10000000000000000000000000000000

20EE EEE EEE EEE EEE EEE EEE EEE EEE EEE EEE EEE EEE EEE EEE EEE

30EE EEE EEE EEE EEE EEE EEE EEE EEE EEE EEE EEE EEE EEE EEE EEE

40EE EEE EEE EEE EEE EEE EEE EEE EEE EEE EEE EEE EEE EEE EEE EEE

50EE EEE EEE EEE EEE EEE EEE EEE EEE EEE EEE EEE EEE EEE EEE EEE

60EE EEE EEE EEE EEE EEE EEE EEE EEE EEE EEE EEE EEE EEE EEE EEE

700000000000000000000000000000000000

Remove All Breakpoints

RSTStepPauseNewLoadSaveCPYPasteBP

Time: lms 76us - Instructions: 619U

0000| LJMPl main

ORG 0080h

main:

0080| ACALL FUNCTION

0082| SJMPl \$

ORG 0100h

FUNCTION:

0100| MOV R0, #80

0102| MOV R1, #20h

ROT:

0104| MOV @R1, #0EEh

0106| INC R1

0107| DJNZ R0, ROT

0109| RET