

Cursul 4\_2

**Citeste Instructiunea & Intrerupere (IF)**

Locatia	Eticheta	Destinatia	UAL	Sursa 1	Sursa 2	Constanta	Diverse	Conditia	Eticheta Salt	Observatii
0	ifetch:							intr?	intr:	Verificare cerere intr.
1	iloop:						cit.instr:	Mready?	iloop:	RI ←M[CP]
2		CP	ADD	CP	const.	4	TS1 ← RG[rs] TS2← RG[rt]	DCD1?		Decodifica
3	intr:	RAI	PASS S1	CP						Intrerupere
4		CP	PASS S2		const.	0		necond	ifetch:	
<b>Incarca &amp; Memoreaza &amp; Transfera (RD)</b>										
Locatia	Eticheta	Destinatia	UAL	Sursa 1	Sursa 2	Constanta	Diverse	Conditia	Eticheta Salt	Observatii
5	mem:	RA	ADD	TS1	imed16			incarca?	load:	Instructiune de memorare
6	store:	RD	PASS S1	TS2						Memoreaza
7	dloop:						scrie date	Mready?	Dloop:	

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Locatia	Eticheta	Destinatia	UAL	Sursa 1	Sursa 2	Constanta	Diverse	Conditia	Eticheta Salt	Observatii
8								necond	ifetch:	Salt la citeste instructiunea
9	load:						cit. date:	Mready?	load:	$RD \leftarrow M[RA]$
10								DCD1?		Decodifica
11	LB:	TEMP	SLL	RD	const	24				Incarca octet cu semn extins
12		TD	SRA	TEMP	const.	24		necond	writel:	Deplasare aritmetica dreapta
13	LBU:	TEMP	SLL	RD	const.	24				Incarca octet fara semn
14	store:	TD	SRL	TEMP	const.	24		necond	writel:	Deplasare dreapta logica
15	LH:	TEMP	SLL	RD	const.	16				Incarca semicuvant
16		TD	SRA	TEMP	const.	16		necond	writel:	Deplasare dreapta aritmetica
17	LHU:	TEMP	SLL	RD	const.	16				Incarca semicuvant fara semn
18		TD	SRL	TEMP	const.	16		necond.	writel	Deplasare dreapta logica
19		TD	PASS S1	RD				necond.	writel	Incarca cuvant
20	MOVI2S:	RAI	PASS S1	TS1						Incarca registrul special
21	MOVS2I:	TD	PASS S1	RAI						Incarca de la registrul special
22	writel:						$RG[rd] \leftarrow TD$	necond.	ifetch:	Memoreaza rezultatul in RG

## Operatii UAL

Locatia	Eticheta	Destinatia	UAL	Sursa 1	Sursa 2	Constanta	Diverse	Conditia	Eticheta Salt	Observatii
23		TEMP	PASS S2		TS2			DCD2:		TEMP ← Registru
24		TEMP	PASS S2		imed16			DCD3:		TEMP← imed16
25	ADD/I:	TD	ADD	TS1	TEMP			necond	write2:	Adunare
26	SUB/I:	TD	SUB	TS1	TEMP			necond	write2:	Scadere
27	AND/I:	TD	AND	TS1	TEMP			necond	write2:	Produs logic
28	ORI/I:	TD	OR	TS1	TEMP			necond	write2:	Suma logica
29	XOR/I:	TD	XOR	TS1	TEMP			necond	write2:	SAU Exclusiv
30	SLL/I:	TD	SLL	TS1	TEMP			necond	write2:	Deplasare logica stanga
31	SRL/I:	TD	SRL	TS1	TEMP			necond	write2:	Deplasare logica dreapta
32	SRA/I:	TD	SRA	TS1	TEMP			necond	write2:	Deplasare aritmetica dreapta
33	LHI:	TD	SLL	TEMP	const.	16		necond	write2:	Incarca jumatarea superioara
34	write2:						RG[rd] ←TD	necond	ifetch:	

## Executia instructiunilor SET

Locatia	Eticheta	Destinatia	UAL	Sursa 1	Sursa 2	Constanta	Diverse	Conditia	Eticheta Salt	Observatii
35	SEQ/I:		SUB	TS1	TEMP			zero?	set1:	Set la egal
36		TD	PASS S2		const	0		necond	write3:	Set fals
37	SNE/I:		SUB	TS1	TEMP			zero?	set0:	Set la diferit
38		TD	PASS S2		const	1		necond	write3:	Set fals
39	SLT/I:		SUB	TS1	TEMP			negativ?	set1:	Set la mai mic
40		TD	PASS S2		const	0		necond	write3:	Set fals
41	SGE/I:		SUB	TS1	TEMP			negativ?	set0:	Set la mai mare sau egal
42		TD	PASS S2		const	1		necond	write3:	Set fals
43	SGT/I:		SUB	TEMP	TS1			negativ?	set1:	Set la mai mare
44		TD	PASS S2		const	0		necond	write3:	Set fals
45	SLE/I:		SUB	TEMP	TS1			negativ?	set0:	Set la mai mic sau egal
46		TD	PASS S2		const	1		necond	write3:	Set adevarat
47	set0:	TD	PASS S2		const	0		necond	write3:	Set fals
48		TD	PASS S2		const	1		necond	write3:	Set adevarat
49	write3:						RG[rd] ← TD	necond.	ifetch:	Memoreaza rezultatul in RG

## Executia Instructiunilor de Ramificare si Salt

Locatia	Eticheta	Destinatia	UAL	Sursa 1	Sursa 2	Constanta	Diverse	Conditia	Eticheta Salt	Observatii
50	beq:		SUB	TS1	const	0		zero?	branch:	Ramificare la egal
51								necond	ifetch:	Ramificare neexecutata
52	bne:		SUB	TS1	const	0		zero?	branch:	Ramificare la diferit
53	branch:		ADD	CP	imed16			necond	ifetch:	Ramificare executata
54	jmp:	CP	ADD	CP	imed26			necond	ifetch:	Ramificare executata
55	jreg:	CP	PASS S1	TS1				necond	ifetch:	Ramificare executata
56	jal:	TD	PASS S1	CP						Salt cu legatura
57		CP	ADD	CP	imed26		RG[31] ← TD	necond	ifetch:	Ramificare executata
58	jalr:	TD	PASS S1	CP						Salt cu legatura registru
59		CP	ADD	TS1			RG[31] ← TD	necond	ifetch:	Ramificare executata
60	trap:	RAI	PASS S1	CP						Capcana - Trap
61		CP	PASS S2		const	16		necond	ifetch:	