

Table.

1. ADD

ASM

ADD \$d, \$s, \$t

ex: ADD \$4, \$4, \$2

RTL

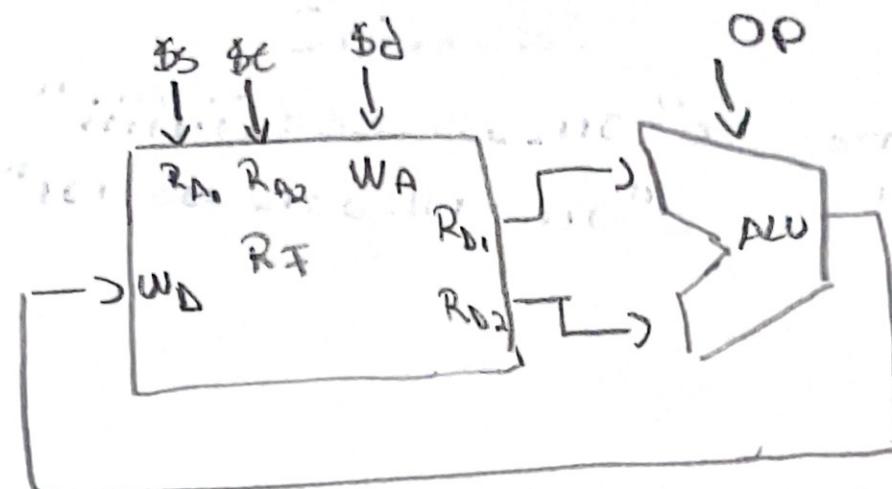
\$d <= \$s + \$t

PCC - PC + 1

Cod maximă

B" 000-sss-ttt-ddd-0-101"

B" 000-100-010-100-0-101"



2. SUB

ASM

SUB \$d, \$s, \$t

ex. sub \$4, \$4, \$2

RTL

\$d <= \$s - \$t

PCC - PC + 1

Cod maximă

B" 000-sss-ttt-ddd-0-010"

B" 000-100-010-100-0-010"

3. SLL

ASM

SLL \$d, \$t, h

ex. sll \$4, \$2, 1

RTL

\$d <= \$t < h

PCC - PC + 1

Cod maximă

B" 000-sss-ttt-ddd-h-110"

B" 000-000-010-100-1-110"

4. SRL

ASM

SRL \$d, \$t, h

ex. srl \$5, \$4, 1

RTL

\$d <= \$t > h

PCC - PC + 1

Cod maximă

B" 000-000-ttt-ddd-h-001"

B" 000-000-100-101-1-001"

5. AND

ASM

AND \$d, \$s, \$t

ex. and \$3, \$3, \$4

RTL

\$d <= \$s & \$t

PCC - PC + 1

Cod maximă

B" 000-sss-ttt-ddd-0-011"

B" 000-011-100-011-0-011"

6. OR

ASM

OR \$d, \$s, \$t

ex. or \$2 \$5 \$5 \$7

RTL

\$d <= \$s | \$t

PCC - PC + 1

Cod maximă

B" 000-sss-ttt-ddd-0-000"

B" 000-101-010-101-0-000"

7. XOR

ASM

XOR \$d, \$s, \$t

ex. XOR \$1, \$2, \$2

RTL

$\$d \leftarrow \$s \oplus \$t;$

$PC \leftarrow PC + 1;$

Cod maximă

B"000-sss-eee-ddd-0-110"

B"000-010-010-001-0-110"

8. ORI

ASM

ORI \$t, \$s, imm

ex. ORI \$1, \$1, 5

RTL

$\$t \leftarrow \$s \mid imm$

$PC \leftarrow PC + 1$

Cod maximă

B"011-sss-eee-iiiiii"

B"011-001-001-0000101"

9. ADD

ASM

addi \$t\$, \$s\$, imm

ex. addi \$2, \$2, 1

RTL

$\$t \leftarrow \$s + imm;$

$PC \leftarrow PC + 1$

Cod maximă

B"100-sss-eee-iiiiii"

B"100-010-010-0000001"

10. PW

ASM

Pw \$t, offset(\$s)

ex. Pw \$2, 5(\$4)

RTL

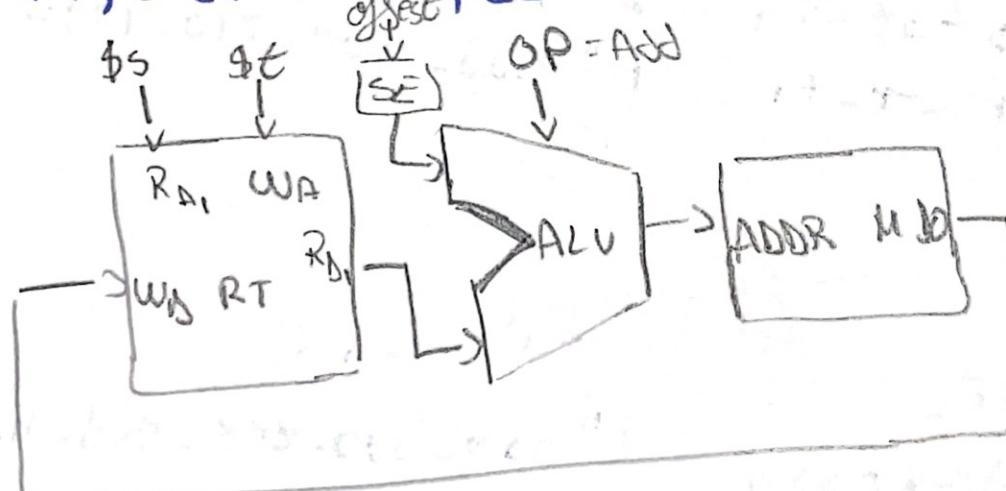
$\$t \leftarrow M[\$s + SE(offset)]$

$PC \leftarrow PC + 1$

Cod maximă

B"001-sss-ttt-iiiiii"

B"001-100-010-0000101"



11. SW

ASM

SW \$t, offset(\$s)

ex. SW \$1, 2(\$3)

RTL

~~M + \$s + offset~~

$M[\$s + SE(offset)]$

$PC \leftarrow PC + 1$

Cod maximă

B"101-sss-eee-iiiiii"

B"101-011-001-0000010"

12. beg

ASM

beg \$s, \$t, offset

ex. beg \$2, \$1, 4

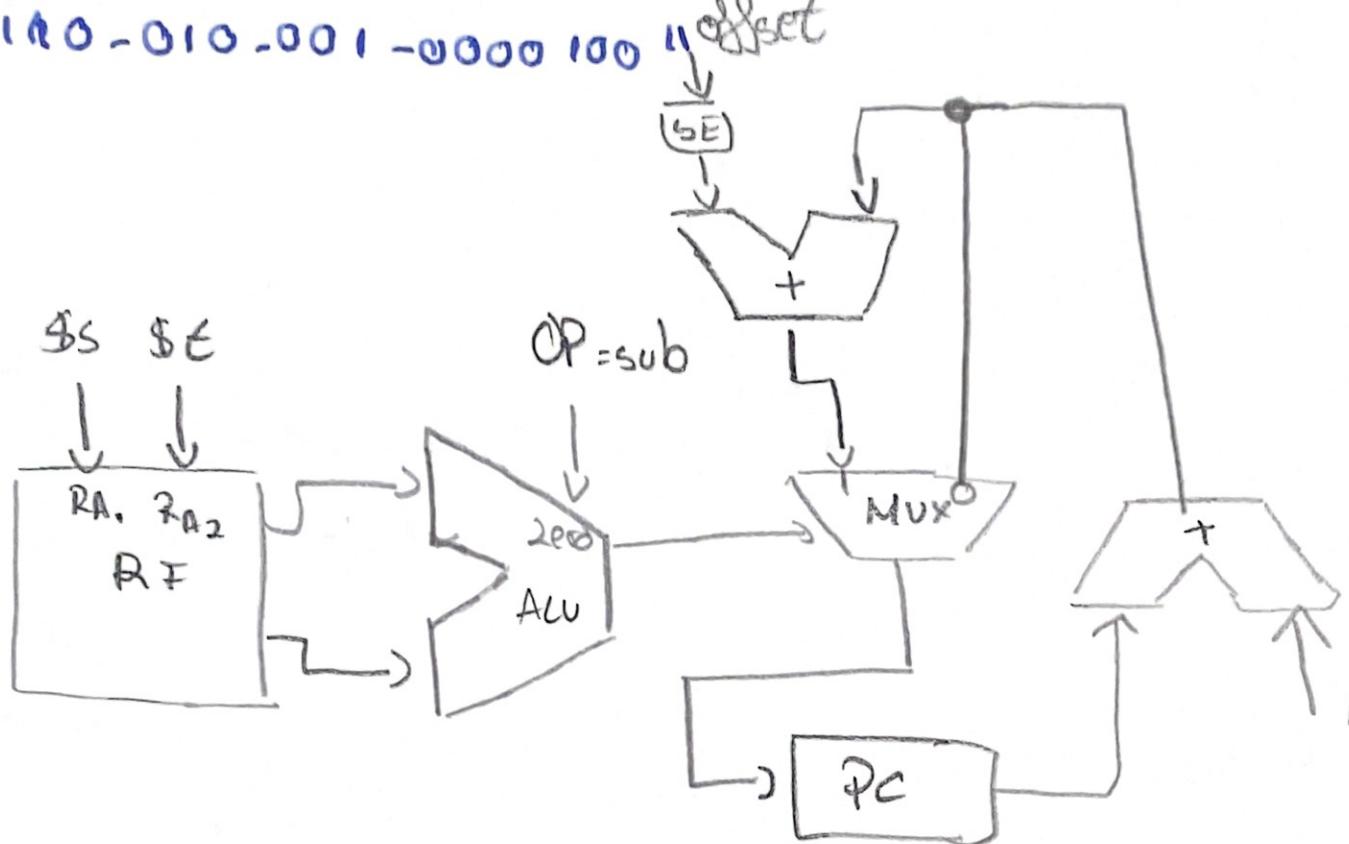
RTL

```
if $s == $t PC = PC + se(offset);
else PC = PC + 1
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Cod masină

B "110-sss-eee-iiiiii"

B "110-010-001-0000100" offset



13. BNE

ASM

BNE \$s, \$t, offset

ex. BNE \$2, \$2, 3

RTL
if \$s != \$t PC = PC + 1 + (offset << 2)
else PC = PC + 1

Cod MASINA

B "111-sss-eee-iiiiii"

B "111-010-010-00000011"

~~14. BGEZ~~

14. BGEZ

BGEZ \$s, offset

ex. bgez \$4, 12

Cod masină

B "001-sss-001-iiiiii"

B "001-100-001-000100"

RTL
if \$s >= 0 PC = PC + 1 + (offset << 2)
else PC = PC + 1

7. XOR

ASM

15. J

ASM

RTL

Cod maximă

J adr
ex J 6

PC<-(PC+1) & x"FFFF"(Adr);

Cod maximă

B"111-1111111111"

B"111-0000000000110"

