**Semnale de control MIPS32**

Semnale de Branch opționale: ? ϵ {gez, ne, gtz}, se va înlocui ? cu o valoare din paranteză, dacă e cazul

Tipuri de operații care se pun în paranteză la ALUOp si ALUCtrl:

(+), (-), (&), (|), (^), (<<*l*), (<<*lv*), (>>*l*), (>>*a*), (<)

Semnificații: & - AND, | - OR, ^ *- XOR, l* *- logic, a - aritmetic, v - cu variabilă*

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| **Instrucțiune** | **Opcode**  *Instr[31-26]* | **RegDst** | **ExtOp** | **ALUSrc** | **Branch** | **Br\_ne**  (opțional) | **Jump** | **JmpR** (opțional) | **MemWrite** | **MemtoReg** | **Reg Write** | **ALUOp[1:0]** | **function**  *Instr[5-0]* | **ALUCtrl[2:0]** |
| ADD | 0000000 | 1 | X | 0 | 0 | 0 | 0 |  | 0 | 0 | 1 | 10(R) | 100000 | 000(+) |
| SUB | 0000000 | 1 | X | 0 | 0 | 0 | 0 |  | 0 | 0 | 1 | 10(R) | 100010 | 100(-) |
| SLL | 0000000 | 1 | X | 0 | 0 | 0 | 0 |  | 0 | 0 | 1 | 10(R) | 000000 | 101(<<l) |
| SRL | 0000000 | 1 | X | 0 | 0 | 0 | 0 |  | 0 | 0 | 1 | 10(R) | 000010 | 110(>>l) |
| AND | 0000000 | 1 | X | 0 | 0 | 0 | 0 |  | 0 | 0 | 1 | 10(R) | 100100 | 001(&) |
| OR | 0000000 | 1 | X | 0 | 0 | 0 | 0 |  | 0 | 0 | 1 | 10(R) | 100101 | 010(|) |
| SRA | 0000000 | 1 | X | 0 | 0 | 0 | 0 |  | 0 | 0 | 1 | 10(R) | 000011 | 111(>>a) |
| XOR | 0000000 | 1 | X | 0 | 0 | 0 | 0 |  | 0 | 0 | 1 | 10(R) | 100110 | 011(^) |
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| ADDI | 001000 | 0 | 1 | 1 | 0 | 0 | 0 |  | 0 | 0 | 1 | 00(+) | X | 000(+) |
| LW | 100011 | 0 | 1 | 1 | 0 | 0 | 0 |  | 0 | 1 | 1 | 00(+) | X | 000(+) |
| SW | 101011 | X | 1 | 1 | 0 | 0 | 0 |  | 1 | X | 0 | 00(+) | X | 000(+) |
| BEQ | 000100 | X | 1 | 0 | 1 | 0 | 0 |  | 0 | X | 0 | 01(-) | X | 100(-) |
| ORI | 001101 | 0 | 0 | 1 | 0 | 0 | 0 |  | 0 | 0 | 1 | 11(|) | X | 010(|) |
| BNE | 000101 | X | 1 | 0 | 0 | 1 | 0 |  | 0 | X | 0 | 01(-) | X | 100(-) |
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| J | 000010 | X | X | X | X | X | 1 |  | 0 | X | 0 | X | X | X |
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URL: <https://drive.google.com/file/d/1SI7x2Gp_2m3SEkwnXuGt4ns4voYzpGBH/view?usp=sharing>