**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*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Instrucțiune** | **Opcode**  *Instr[31-26]* | **RegDst** | **ExtOp** | **ALUSrc** | **Branch** | **Br\_ne** | **Br\_gtz** | **Jump** | **MemWrite** | **MemtoReg** | **Reg Write** | **ALUOp[1:0]** | **function**  *Instr[5-0]* | **ALUCtrl[2:0]** |
| ADD | 000000 | 1 | X | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 00 | 100000 | 000 (+) |
| SUB | 000000 | 1 | X | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 00 | 010000 | 001 (-) |
| SLL | 000000 | 1 | X | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 00 | 001000 | 010 (<<) |
| SRL | 000000 | 1 | X | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 00 | 000100 | 011 (>>) |
| AND | 000000 | 1 | X | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 00 | 000010 | 100 (&) |
| OR | 000000 | 1 | X | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 00 | 000001 | 101 (|) |
| XOR | 000000 | 1 | X | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 00 | 000011 | 110 (^) |
| SLT | 000000 | 1 | X | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 00 | 110000 | 111 (<) |
| ADDI | 100000 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 01 | 100000 | 000 (+) |
| LW | 010000 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 01 | 100000 | 000 (+) |
| SW | 001000 | X | 1 | 1 | 0 | 0 | 0 | 0 | 1 | X | 0 | 01 | 100000 | 000 (+) |
| BEQ | 000100 | X | 1 | 0 | 1 | 0 | 0 | 0 | 0 | X | 0 | 10 | 000001 | 001 (-) |
| BNE | 000010 | X | 1 | 0 | 0 | 1 | 0 | 0 | 0 | X | 0 | 10 | 000001 | 001 (-) |
| BGTZ | 000001 | X | 1 | 0 | 0 | 0 | 1 | 0 | 0 | X | 0 | 10 | 000001 | 001 (-) |
| J | 101010 | X | X | X | X | X | X | 1 | 0 | X | 0 | 00 | 110000 | 111 (<) |