**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**\_NOT | **Jump** | **MemWrite** | **MemtoReg** | **Reg Write** | **ALUOp[2:0]** | **function**  *Instr[5-0]* | **ALUCtrl[2:0]** |
| add | 000000 | 1 | x | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 000 | 000001 | 001 |
| sub | 000000 | 1 | x | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 000 | 000010 | 010 |
| sll | 000000 | 1 | x | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 000 | 000011 | 110 |
| srl | 000000 | 1 | x | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 000 | 000100 | 111 |
| and | 000000 | 1 | x | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 000 | 000101 | 000 |
| or | 000000 | 1 | x | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 000 | 000110 | 011 |
| mult | 000000 | 1 | x | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 000 | 000111 | 100 |
| XOR | 000000 | 1 | x | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 000 | 001000 | 101 |
| addi | 001001 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 001 | xxxxxx | 001 |
| lw | 001010 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 001 | xxxxxx | 001 |
| sw | 001011 | x | 1 | 1 | 0 | 0 | 0 | 1 | x | 0 | 001 | xxxxxx | 001 |
| beq | 001100 | x | 1 | 0 | 1 | 0 | 0 | 0 | x | x | 010 | xxxxxx | 010 |
| bne | 001101 | x | 1 | 0 | 0 | 1 | 0 | 0 | x | x | 010 | xxxxxx | 010 |
| ori | 001110 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 011 | xxxxxx | 011 |
| j | 001111 | x | 0 | x | 0 | 0 | 1 | 0 | x | x | xxx | xxxxxx | xxx |