**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**  (opțional) | **Jump** | **JmpR** (opțional) | **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 | 000000 | 000(+) |
| SUB | 000000 | 1 | X | 0 | 0 | 0 | 0 |  | 0 | 0 | 1 | 000 | 000001 | 001(-) |
| SLL | 000000 | 1 | X | 0 | 0 | 0 | 0 |  | 0 | 0 | 1 | 000 | 000010 | 101(<<l) |
| SRL | 000000 | 1 | X | 0 | 0 | 0 | 0 |  | 0 | 0 | 1 | 000 | 000011 | 110(>>l) |
| AND | 000000 | 1 | X | 0 | 0 | 0 | 0 |  | 0 | 0 | 1 | 000 | 100000 | 010(&) |
| OR | 000000 | 1 | X | 0 | 0 | 0 | 0 |  | 0 | 0 | 1 | 000 | 100001 | 011(|) |
| XOR | 000000 | 1 | X | 0 | 0 | 0 | 0 |  | 0 | 0 | 1 | 000 | 100010 | 100(^) |
| SLT | 000000 | 1 | X | 0 | 0 | 0 | 0 |  | 0 | 0 | 1 | 000 | 010000 | 111(<) |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ADDI | 000001 | 0 | 1 | 1 | 0 | 0 | 0 |  | 0 | 0 | 1 | 001(+) | XXXXXX | 000(+) |
| LW | 000111 | 0 | 1 | 1 | 0 | 0 | 0 |  | 0 | 1 | 1 | 001 (+) | XXXXXX | 000(+) |
| SW | 000011 | X | 1 | 1 | 0 | 0 | 0 |  | 1 | X | 0 | 001 (+) | XXXXXX | 000(+) |
| BEQ | 000100 | X | 1 | 0 | 1 | 0 | 0 |  | 0 | X | 0 | 010(-) | XXXXXX | 001(-) |
| ORI | 000101 | 0 | 1 | 1 | 0 | 0 | 0 |  | 0 | 0 | 1 | 011(|) | XXXXXX | 011(|) |
| BNE | 000110 | X | 1 | 0 | 0 | 1 | 0 |  | 0 | X | 0 | 010(-) | XXXXXX | 001(-) |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| J | 100000 | X | X | X | X | 0 | 1 |  | 0 | X | 0 | XXX | XXXXXX | XXX |

URL: <https://drive.google.com/file/d/1SI7x2Gp_2m3SEkwnXuGt4ns4voYzpGBH/view?usp=sharing>