**Semnale control MIPS16**

*Tipuri de operații care se pun în paranteză la ALUOp si ALUCtrl:* {(+), (-), (&), (I), (^), (<<l), (<<lv), (>>l), (>>a), (<)}

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Instrucțiune** | **Opcode** *Instr(15-13)* | **RegDst** | **ExtOp** | **ALUSrc** | **Branch** | **BrGT** | **BrGE** | **Jump** | **MemWrite** | **MemtoReg** | **RegWrite** | **ALUOp (1:0)** | **func**  *Instr(2-0)* | **ALUCtrl (2:0)** | **JmpR** |
| add | 000 | 1 | X | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 11(R) | 000 | 000(+) |  |
| sub | 000 | 1 | X | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 11(R) | 001 | 001(-) |  |
| sll | 000 | 1 | X | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 11(R) | 010 | 010(<<l) |  |
| srl | 000 | 1 | X | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 11(R) | 011 | 011(>>l) |  |
| And | 000 | 1 | X | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 11(R) | 100 | 100(&) |  |
| Or | 000 | 1 | X | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 11(R) | 101 | 101(|) |  |
| Xor | 000 | 1 | X | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 11(R) | 110 | 110(^) |  |
| Sra | 000 | 1 | X | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 11(R) | 111 | 111(>>a) |  |
| Addi | 001 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 00(+) | X | 000(+) |  |
| Lw | 010 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 00(+) | X | 000(+) |  |
| Sw | 011 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 00(+) | X | 000(+) |  |
| Beq | 100 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 01(-) | X | 001(-) |  |
| Bgez | 101 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 01(-) | X | 001(-) |  |
| Bgtz | 110 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 01(-) | X | 001(-) |  |
| j | 111 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | xx | X | xxx |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

URL: <https://drive.google.com/open?id=1SI7x2Gp_2m3SEkwnXuGt4ns4voYzpGBH>