**Trasarea execuției programului de test pentru MIPS32**

Valorile se completează în hexazecimal așa cum trebuie să apară pe SSD. Succesiunea pașilor reprezintă ordinea de execuție în timp la apăsarea butonului ENable. **Pasul 0 corespunde stării inițiale a circuitului (PC = 0), iar** **pasul *N* caracterizează starea după apăsarea de *N* ori a butonului ENable**. Inițial registrele vor avea valoarea 0 (care se atribuie automat în lipsa unei inițializări explicite a RF), iar memoria de date RAM poate fi inițializată cu valori dorite. Tabelul se completează pentru tot programul sau, dacă are buclă, până la finalul primei iterații. *Buclă = revenirea execuției la o instrucțiune care a mai fost executată anterior.*

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Pas** | **SW(7:5)** | "0000" | "0001" | "0010" | "0011" | "0101" | "0100" | "0110" | "1000" | **De completat numai pentru instrucțiuni de salt** | |
| **Instr** (*în asamblare*) | **Instr** (*hexa*) | **PC+4** | **RD1** | **RD2** | **Ext\_Imm** | **ALURes** | **MemData** | **WD** | **BranchAddr** | **JumpAddr** |
| 0 | add $1, $0, $0 | X00000820 | X"00000004" | X"00000000" | X"00000000" | X"00000820" | X"00000000" | X"00000003" | X"00000000" | X | X |
| 1 | addi $4, $0, 10 | X2004000A | X"00000008" | X"00000000" | X"00000000" | X"0000000a" | X"0000000a" | X"00000000" | X"0000000a" | X | X |
| 2 | add $2, $0, $0 | X00001020 | X"0000000C" | X"00000000" | X"00000000" | X"00001020" | X"00000000" | X"00000003" | X"00000000" | X | X |
| 3 | add $5, $0, $0 | X00002820 | X"00000010" | X"00000000" | X"00000000" | X"00002820" | X"00000000" | X"00000003" | X"00000000" | X | X |
| 4 | addi $6, $0, 3 | X20060003 | X"00000014" | X"00000000" | X"00000000" | X"00000003" | X"00000003" | X"00000015" | X"00000003" | X | X |
| 5 | addi $7, $0, 1 | X20070001 | X"00000018" | X"00000000" | X"00000000" | X"00000001" | X"00000001" | X"0000000d" | X"00000001" | X | X |
| 6 | beq $1, $4, 8 | X10240008 | X"0000001C" | X"00000000" | X"0000000a" | X"00000008" | X"00000000" | X"00000003" | X"00000000" | X"0000003C" | X"00900020" |
| 7 | addi $8, $0, 0 | X20080000 | X"00000020" | X"00000000" | X"00000000" | X"00000000" | X"00000000" | X"00000003" | X"00000000" | X | X |
| 8 | lw $3, v\_addr($2 | 8C430000 | X"00000024" | X"00000000" | X"00000000" | X"00000000" | X"00000000" | X"00000003" | X"00000003" | X | X |
| 9 | mod $8, $3, $6 | X00664036 | X"00000028" | X"00000003" | X"00000003" | X"00004036" | X"00000000" | X"00000003" | X"00000000" | X | X |
| 10 | beq $8, $7, 1 | X11070001 | X"0000002C" | X"00000000" | X"00000001" | X"00000001" | X"00000000" | X"00000003" | X"00000000" | X"00000030" | X"041c0004" |
| 11 | add $5, $5, $3 | X00A32820 | X"00000030" | X"00000000" | X"00000003" | X"00002820" | X"00000003" | X"00000015" | X"00000003" | X | X |
| 12 | addi $2, $2, 1 | X20420001 | X"00000034" | X"00000000" | X"00000000" | X"00000001" | X"00000001" | X"0000000d" | X"00000001" | X | X |
| 13 | addi $1, $1, 1 | X20210001 | X"00000038" | X"00000000" | X"00000000" | X"00000001" | X"00000001" | X"0000000d" | X"00000001" | X | X |
| 14 | j 6 | X08000006 | X"0000003C" | X"00000000" | X"00000000" | X"00000006" | X"00000000" | X"00000003" | X"00000000" | X"00000054" | X"00000018" |
| 15 | sw $5, sum\_addr($11) | XAD4B0000 | X"00000040" | X | X | X | X | X | X | X | X |
| 16 | lw $1, sum\_addr($11) | X8D610000 | X"00000044" | X | X | X | X | X | X | X | X |
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URL: <https://drive.google.com/file/d/1OgoST1-tEe1cbUdNk_VKr6NHq3zVfs83/view?usp=sharing>