**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)** | "000" | "001" | "010" | "011" | "100" | "101" | "110" | "111" | **De completat numai pentru instrucțiuni de salt** | |
| **Instr** (*în asamblare*) | **Instr** (*hexa*) | **PC+4** | **RD1** | **RD2** | **Ext\_Imm** | **ALURes** | **MemData** | **WD** | **BranchAddr** | **JumpAddr** |
| 0 | lw $8,0($0) | X"8C080000" | X"00000004" | X"00000000" | X"00000000" | X"00000000" | X"00000000" | X"0000000F" | X"0000000F" | X"" | X"" |
| 1 | lw $1,4($0) | X”8C810004” | X"00000008" | X"00000000" | X"00000000" | X”00000004” | X”00000004” | X”00000028” | X”00000028” |  |  |
| 2 | lw $2,8($0) | X” 8C020008” | X”0000000C” | X”00000000” | X”00000000” | X”00000008” | X”00000008” | X”00000007” | X”00000007” |  |  |
| 3 | addi $3, 0($0) | X” 20030000” | X”00000010” | X”00000000” | X”00000000” | X”00000000” | X”00000000” | X”0000000F” | X”00000000” |  |  |
| 4 | add $4, $0, 0 | X”00002020” | X”00000014” | X”00000000” | X”00000000” | X”00002020” | X”00000000” | X”0000000F” | X”00000000” |  |  |
| 5 | add $10, $0, $2 | X”00025020” | X”00000018” | X”00000000” | X”00000007” | X”00005020” | X”0000007” | X”00000028” | X”00000007” |  |  |
| 6 | addi $9, 0($1), | X” 20090001” | X”0000001C” | X”00000000” | X”00000000” | X”00000000” | X”00000000” | X”0000000F” | X”00000000” |  |  |
| 7 | lw $5, 16($t3) | X” 8C650010” | X”00000020” | X”00000000” | X”00000000” | X”00000010” | X”00000010” | X”00000014” | X”00000014” |  |  |
| 8 | slt $6, $0, $5 | X” 105302A” | X”00000024” | X”0000000F” | X”00000014” | X”0000302A” | X”00000001” | X”0000000F” | X”00000001” |  |  |
| 9 | beq $6, $0, 3 | X” 10C00003” | X”00000028” | X”00000001” | X”00000000” | X”00000003” | X”00000001” | X”0000000F” | X”00000001” | X”00A1382A” |  |
| 10 | slt $7, $5, $1 | X”00A1382A” | X”0000002C” | X”00000014” | X”00000028” | X”0000382A” | X”00000001” | X”0000000F” | X”00000001” |  |  |
| 11 | beq $7,$0,0 | X” 10E00000” | X”00000030” | X”00000001” | X”00000000” | X”00000000” | X”00000001” | X”0000000F” | X”00000001” |  |  |
| 12 | add $t4, $t4, $t5 | X”00852020” | X”00000034” | X”00000000” | X”00000014” | X”00002020” | X”00000014” | X”0000000A” | X”00000014” | X”00852020” |  |
| 13 | addi $3, $3, 4 | X” 20630000” | X”00000038” | X”00000000” | X”00000000” | X”00000004” | X”00000004” | X”00000028” | X”00000004” |  |  |
| 14 | addi $9, $9, 1 | X” 21290001” | X”0000003C” | X”00000000” | X”00000000” | X”00000001” | X”00000000” | X”0000000F” | X”00000001” |  |  |
| 15 | beq $9,10($1) | X”112A0001” | X”00000040” | X”00000001” | X”0000007” | X”00000001” | X”FFFFFFFA” | X”00000000” | X”FFFFFFFA” |  |  |
| 16 | j 7 | X”08000007” | X”00000044” | X”00000000” | X”00000000” | X”00000007” | X”00000000” | X”0000000F” | X”00000000” |  | X” 8C650010” |
| 17 | lw $5, 16($t3) | X” 8C650010” | X”00000020” | X”00000004” | X”00000014” | X”00000010” | X”00000014” | X”0000000A” | X”0000000A” |  |  |
| 18 | slt $6, $0, $5 | X” 105302A” | X”00000024” | X”0000000F” | X”0000000A” | X”0000302A” | X”00000000” | X”0000000F” | X”00000000” |  |  |
| 19 | beq $6, $0, 3 | X” 10C00003” | X”00000028” | X”00000001” | X”00000000” | X”00000003” | X”00000001” | X”0000000F” | X”00000001” | X” 20630000” |  |
| 20 | addi $3, $3, 4 | X” 20630000” | X”00000038” | X”00000004” | X”00000004” | X”00000004” | X”00000008” | X”00000007” | X”00000008” |  |  |
| 21 | addi $9, $9, 1 | X” 21290001” | X”0000003C” | X”00000001” | X”00000001” | X”00000001” | X”00000002” | X”0000000F” | X”00000002” |  |  |
| 22 | beq $9,10($1) | X”112A0001” | X”00000040” | X”00000002” | X”0000007” | X”00000001” | X”FFFFFFFB” | X”00000000” | X”FFFFFFFB” |  |  |
|  | j 7 | X”08000007” | X”00000044” | X”00000000” | X”00000000” | X”00000007” | X”00000000” | X”0000000F” | X”00000000” |  | X” 8C650010” |
|  | ....... | .. | . |  | . |  |  | . | . |  |  |
|  | sw $4, 12($0) | X”AC04000C” | X”00000048” | X”00000000” | X”0000006E” | X”0000000C” | X”0000000C” | X”00000000” | X”00000000” |  |  |
|  | lw $1,4($0) | X” 8C81000C” | X”0000004C” | X”00000028” | X”0000000C” | X”0000000C” | X”0000006E” | X”000006E” | X”0000006E”(REZULTATUL FINAL) |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |