**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 $4, 0($0) | X" 8C040000" | X"00000004" | x"00000000” | x"00000000” | x"00000000” | x"00000000” | X"0000000A" | X"0000000A" | x"00000000” | x"00000000” |
| 1 | lw $5, 4($0) | X" 8C050004" | x"00000008" | x"00000000” | x"00000000” | x"00000000” | x"00000000” | x"0000000B | x"0000000B | x"00000000” | x"00000000” |
| 2 | lw $6, 8($0) | X" 8C060008" | x"0000000C | x"00000000” | x"00000000” | x"00000000” | x"00000000” | x"0000000C | x"0000000C | x"00000000” | x"00000000” |
| 3 | add $2, $0, $0 | X"00001020" | x"00000010 | x"00000000” | x"00000000” | x"00000000” | x"00000000 | x"00000000” | x"00000000 | x"00000000” | x"00000000” |
| 4 | add $11, $0, $0 | X"00005820" | x"00000014 | x"00000000” | x"00000000” | x"00000000” | x"00000000 | x"00000000” | x"00000000 | x"00000000” | x"00000000” |
| 5 | add $3, $0, $16 | X"101820" | x"00000018 | x"00000000” | x"00000000” | x"00000000” | x"00000010 | x"00000000” | x"00000010 | x"00000000” | x"00000000” |
| 6 | beq $2, $6, 10 | X" 1046000A" | x"0000001C | x"00000000 | x"0000000C | x"00000000” | x"00000000” | x"00000000” | x"00000000” | x"00000000” | x"00000000” |
| 7 | lw $7, 0($3) | X" 8C670000" | x"00000020 | x"00000000” | x"00000000” | x"00000000” | x"00000000” | x"00000000” | x"00000000” | x"00000000” | x"00000000” |
| 8 | add $3, $3, 4 | X" 641820" | x"00000024 | x"00000000” | x"00000000” | x"00000000” | x"00000014 | x"00000000” | x"00000014 | x"00000000” | x"00000000” |
| 9 | slt $8, $4, $7 | X" 87402A" | x"00000028 | x"0000000A | x"00000000” | x"00000000” | x"00000001 | x"00000000” | x"00000001 | x"00000000” | x"00000000” |
| 10 | slt $9, $7, $5 | X" E5482A" | x"0000002C | x"00000000” | x"0000000B | x"00000000” | x"00000001 | x"00000000” | x"00000001 | x"00000000” | x"00000000” |
| 11 | addi $9, $9, 1 | X" 21290001" | x"00000030 | x"00000001" | x"00000000” | x"00000001 | x"00000002 | x"00000000” | x"00000002 | x"00000000” | x"00000000” |
| 12 | and $10, $8, $9 | X" 1095024" | x"00000034 | x"00000001 | x"00000002 | x"00000000” | x"00000000" | x"00000000” | x"00000000" | x"00000000” | x"00000000” |
| 13 | beq $10, $0, 1 | X" 11400001" | x"00000038 | x"00000000 | x"00000000 | x"00000000” | x"00000000” | x"00000000” | x"00000000” | x"0000003C | x"00000000” |
| 14 | add $11, $11, $7 | X" 1675820" | X”0000003C | x"00000000 | x"00000000” | x"00000000” | x"00000000” | x"00000000” | x"00000000” | x"00000000” | x"00000000” |
| 15 | addi $2, $2, 1 | X" 20420001" | x"00000040 | x"00000000 | x"00000000” | x"00000001 | x"00000001 | x"00000000” | x"00000001 | x"00000000” | x"00000000” |
| 16 | j 7 | X" 8000007" | X”xxxxxxxx” | x"00000000” | x"00000000” | x"00000000” | x"00000000” | x"00000000” | x"00000000” | x"00000020 | x"00000000” |
| 17 | sw $11, 12($0) | X"AC0B000C" | x"00000044 | x"00000000” | x"00000000” | x"00000000” | x"00000000” | x"00000000” | x"00000000” | x"00000000” | x"00000000” |
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URL: <https://drive.google.com/file/d/1OgoST1-tEe1cbUdNk_VKr6NHq3zVfs83/view?usp=sharing>