|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Cycle | Reset | PC | Instr | (FSM) state | SrcA | SrcB | ALUResult |
| 1 | **1** | **00** | **0** | **FETCH** | **0** | **4** | **4** |
| 2 | **0** | **04** | **SUB E04F000F** | **DECODE** | **4** | **4** | **8** |
| 3 | **0** | **04** |  | **EXECUTER** | **8** | **8** | **0** |
| 4 | **0** | **04** |  | **ALUWB** | **X** | **X** | **X** |
| 5 | **0** | **04** |  | **FETCH** | **4** | **4** | **8** |
| 6 | **0** | **08** | **ADD E2802005** | **DECODE** | **8** | **4** | **C** |
| 7 | **0** | **08** |  | **EXECUTEI** | **0** | **5** | **5** |
| 8 | **0** | **08** |  | **ALUWB** | **X** | **X** | **X** |
| 9 | **0** | **08** |  | **FETCH** | **8** | **4** | **C** |
| 10 | 0 | 0C | ADD E280300C | DECODE | C | 4 | 10 |
| 11 | 0 | 0C |  | EXECUTEI | 0 | C | C |
| 12 | 0 | 0C |  | ALUWB | X | X | X |
| 13 | 0 | 0C |  | FETCH | C | 4 | 10 |
| 14 | 0 | 10 | SUB E2437009 | DECODE | 10 | 4 | 14 |
| 15 | 0 | 10 |  | EXECUTEI | C | 9 | 3 |
| 16 | 0 | 10 |  | ALUWB | X | X | X |
| 17 | 0 | 10 |  | FETCH | 10 | 4 | 14 |
| 18 | 0 | 14 | ORR E1874002 | DECODE | 14 | 4 | 18 |
| 19 | 0 | 14 |  | EXECUTER | 3 | 5 | 7 |
| 20 | 0 | 14 |  | ALUWB | X | X | X |
| 21 | 0 | 14 |  | FETCH | 14 | 4 | 18 |
| 22 | 0 | 18 | AND E0035004 | DECODE | 18 | 4 | 1C |
| 23 | 0 | 18 |  | EXECUTER | C | 7 | 4 |
| 24 | 0 | 18 |  | ALUWB | X | X | X |
| 25 | **0** | **18** |  | **FETCH** | **18** | **4** | **1C** |
| 26 | **0** | **1C** | **ADD EO855004** | **DECODE** | **1C** | **4** | **20** |
| 27 | **0** | **1C** |  | **EXECUTER** | **4** | **7** | **B** |
| 28 | **0** | **1C** |  | **ALUWB** | **X** | **X** | **X** |
| 29 | 0 | 1C |  | FETCH | 1C | 4 | 20 |
| 30 | 0 | 20 | SUBS E0558007 | DECODE | 20 | 4 | 24 |
| 31 | 0 | 20 |  | EXECUTER | B | 3 | 8 |
| 32 | 0 | 20 |  | ALUWB | X | X | X |
| 33 | 0 | 20 |  | FETCH | 20 | 4 | 24 |
| 34 | 0 | 24 | BEQ 0A00000C | DECODE | 24 | 4 | 28 |
| 35 | 0 | 24 |  | BRANCH | 28 (PC + 8) | 30 (12\*4) | 58 |
| 36 | 0 | 24 |  | FETCH | 24 | 4 | 28 |
| 37 | 0 | 28 | SUBS E0538004 | DECODE | 28 | 4 | 2C |
| 38 | 0 | 28 |  | EXECUTER | C | 7 | 5 |
| 39 | 0 | 28 |  | ALUWB | X | X | X |
| 40 | 0 | 28 |  | FETCH | 28 | 4 | 2C |
| 41 | 0 | 2C | BGE AA000000 | DECODE | 2C | 4 | 30 |
| 42 | 0 | 2C |  | BRANCH | 30 (PC + 8) | 0 | 30 |
| 43 | 0 | 30 |  | FETCH | 30 | 4 | 34 |
| 44 | 0 | 34 | SUBS E0578002 | DECODE | 34 | 4 | 38 |
| 45 | 0 | 34 |  | EXECUTER | 3 | 5 | FFFFFFFE |
| 46 | 0 | 34 |  | ALUWB | X | X | X |
| 47 | 0 | 34 |  | FETCH | 34 | 4 | 38 |
| 48 | 0 | 38 | ADDLT B2857001 | DECODE | 38 | 4 | 3C |
| 49 | 0 | 38 |  | EXECUTEI | B | 1 | C |
| 50 | 0 | 38 |  | ALUWB | X | X | X |
| 51 | 0 | 38 |  | FETCH | 38 | 4 | 3C |
| 52 | 0 | 3C | SUB E0477002 | DECODE | 3C | 4 | 40 |
| 53 | 0 | 3C |  | EXECUTER | C | 5 | 7 |
| 54 | 0 | 3C |  | ALUWB | X | X | X |
| 55 | 0 | 3C |  | FETCH | 3C | 4 | 40 |
| 56 | 0 | 40 | STR E5837054 | DECODE | 40 | 4 | 44 |
| 57 | 0 | 40 |  | MEMADR | C | 54 | 60 |
| 58 | 0 | 40 |  | MEMWRITE | X | X | X |
| 59 | 0 | 40 |  | FETCH | 40 | 4 | 44 |
| 60 | 0 | 44 | LDR E5902060 | DECODE | 44 | 4 | 48 |
| 61 | 0 | 44 |  | MEMADR | 0 | 60 | 60 |
| 62 | 0 | 44 |  | MEMREAD | X | X | X |
| 63 | 0 | 44 |  | MEMWB | X | X | X |
| 64 | 0 | 44 |  | FETCH | 44 | 4 | 48 |
| 65 | 0 | 48 | ADD E08FF000 | DECODE | 48 | 4 | 4C |
| 66 | 0 | 48 |  | EXECUTER | 4C | 0 | 4C |
| 67 | 0 | 48 |  | ALUWB | X | X | X |
| 68 | 0 | 4C |  | FETCH | 4C | 4 | 50 |
| 69 | 0 | 50 | B EA000001 | DECODE | 50 | 4 | 54 |
| 70 | 0 | 50 |  | BRANCH | 54 (PC+8) | 4 (1\*4) | 58 |
| 71 | 0 | 58 |  | FETCH | 58 | 4 | 5C |
| 72 | 0 | 5C | STR E5802064 | DECODE | 5C | 4 | 60 |
| 73 | 0 | 5C |  | MEMADR | 0 | 64 | 64 |
| 74 | 0 | 5C |  | MEMWRITE | X | X | X |