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Lab 8 – LC-3 Instruction Set Architecture

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| Addr  | Assembler    | Action/Comment                                |
|-------|--------------|---|
| x7FFF | LD R0,9      | $R0 \leftarrow M[x8009] = 12$                 |
| x8000 | LD R1,9      | $R1 \leftarrow M[x800A] = x800D$              |
| x8001 | LDR R2,R1,0  | $R2 \leftarrow M[x800D+0] = 18$               |
| x8002 | LEA R4,8     | $R4 \leftarrow x8003+8 = x800B$               |
| x8003 | STR R2,R4,0  | $M[x800B] \leftarrow R2 = 18$                 |
| x8004 | AND R3,R3,0  | $R3 \leftarrow 0$                             |
| x8005 | STR R3,R4,1  | $M[x800B+1] = M[x800C] \leftarrow R3 = 0$     |
| x8006 | ADD R5,R0,R0 | $R5 \leftarrow R0 + R0 = 12 + 12 = 24$        |
| x8007 | STI R5,2     | $M[M[x8008+2]] = M[x800D] \leftarrow R5 = 24$ |
| x8008 | TRAP x25     | HALT  |
| x8009 | .FILL 12     |   |
| x800A | .FILL x800D  |   |
| x800B | .FILL 0      | value changes to 18                           |
| x800C | .FILL -1     | value changes to 0                            |
| x800D | .FILL 18     | value changes to 24                           |
| x800E | .FILL 0      |   |