

ADD / ADC / ADZ / NDU / NDC / NDZ

S_0

'111' \longrightarrow RF-A1

RF-D1 \longrightarrow T1

S_1

T1 \longrightarrow Mem-A

Mem-D \longrightarrow IR

S_2

T1 \longrightarrow inc

inc \longrightarrow RF-D3, T3

'111' \longrightarrow RF-A3

S_3

IR \longrightarrow RF-A1

IR₁₁₋₉₈₋₆ \longrightarrow RF-A2

RF-D1 \longrightarrow T1

RF-D2 \longrightarrow T2

S_4

T1 \longrightarrow alu-A

T2 \longrightarrow alu-B

alu-C \longrightarrow RF-D3

IR₅₋₃ \longrightarrow RF-A3

ADL

S_0



S_1



S_2



S_3



$T_1 \longleftrightarrow \text{alu-A}$

$T_2 \longrightarrow \text{IS} \longrightarrow \text{alu-B}$

$\text{alu-C} \longrightarrow \text{RF-D3}$

$\text{IR}_{5-3} \longrightarrow \text{RF-A3}$

S_5

ADI

S₀



S₁



S₂



S₃



TI → alu-A

IR₅₋₀ → SEG → alu-B

alu-C → RF-D3

IR₈₋₆ → RF-A3

S₆

LHI ra, Imm

S₀



S₁



S₂



.

IR₈₋₀ → TS → RF-D3

IR₁₁₋₉ → RF-A3

S₇

LW

S_0



S_1



S_2



S_8

$IR_{8-6} \rightarrow RF-A_1$
 $RF-D_1 \rightarrow T_1$



S_9

$T_1 \rightarrow alu-A$
 $IR_{5-0} \rightarrow SEG \rightarrow alu-B$
 $alu-C \rightarrow T_2$



S_{10}

$T_2 \rightarrow Mem-A$
 $Mem-D \rightarrow T_1$

S_{11}

$T_1 \rightarrow RF-D_3$
 $IR_{11-9} \rightarrow RF-A_3$

SW

S_0



S_1



S_2



S_8



S_9



S_{12}

$IR_{11-9} \rightarrow RF-AI$
 $RF-DI \leftarrow T1$

S_{13}

$T2 \rightarrow Mem-A$
 $T1 \rightarrow Mem-D$

LM



for($i=0$; $i \leq 8$; $i++$)

S_3

if ($IR_i == 1$) then

S_{14}

$T1 \rightarrow \text{Mem-A}$
 $\text{Mem-D} \rightarrow T2$

S_{15}

$\text{dec}(i) \rightarrow \text{RF-A3}$
 $T2 \rightarrow \text{RF-D3}$

S_{16}

$T1 \rightarrow \text{inc}$
 $IR_{i+9} \rightarrow \text{RF-A3}$
 $\text{inc} \rightarrow \text{RF-D3}$

SM

S_0
↓
 S_1
↓
 S_2
↓

for($i=0$; $i \leq 8$; $i++$)

S_3

if ($IR_i == 1$) then

S_{17}

$dec(i) \rightarrow RF-A2$
 $RF-D2 \rightarrow T2$

S_{18}

$T1 \rightarrow Mem-A$
 $T2 \rightarrow Mem-D$

S_{16}

BEQ

S₀



S₁



S₂



S₃

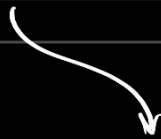


T1 → alu-A

T2 → alu-B

if (Z == 1) then

S₁₉



'III' → RF-A1

RF-D1 → T1

S₂₀

T1 → alu-A

IR₅₋₀ → SEG → alu-B

alu-C → RF-D3

'III' → RF-A3

S₂₁

JAL

S_0



S_1



S_2



$T_3 \longrightarrow RF-D3$

S_{22}

$IR_{11-9} \longrightarrow RF-A3$

$T_1 \longrightarrow alu-A$

$IR_{8-0} \longrightarrow SE9 \longrightarrow alu-B$

S_{23}

$alu-C \longrightarrow RF-D3$

$'111' \longrightarrow RF-A3$

JLR

S_0



S_1



S_2



S_{22}



S_3



S_{24}

$T_2 \longrightarrow RF-D3$

$'111' \longrightarrow RF-A3$

JRI

s_0



s_1



s_2



s_3



s_{23}