

Symbolic code

@16 //RAM[16] represents \hat{c} -

A-instruction: @16 \rightarrow 00000000000010000

M=1 // \hat{p} = 1 -

C-instruction: dest = M, comp=1, jump=null

111 0 11111 001 000 \rightarrow 111011111001000 -

@17 //RAM[17] represents sum -

A-instruction: @17 \rightarrow 0000000000010001

M=0 // sum = 0 -

C-instruction: dest=M, comp=0, jump=null

111 0 101010 001 000 \rightarrow 1110101010001000

@16 -

00000000000010000

D = M -

C-instruction: dest=D, comp=M, jump=null

111 1 110000 010 000 \rightarrow 11111100000010000

Alg. Systems

@0 -

00000000000000000000

$D = D - M$ -

C-Instruction: $dest = D, comp = D - M, jump = null$

111 1 010011 010 000 \rightarrow 1111010011010000

@17 -

00000000000010001

$D: JGT$ -

C-Instruction: $dest = null, comp = D, jump = JGT$

1110 001100 000 001 \rightarrow 1110001100000001

@16 -

00000000000010000

$D = M$ -

11111100000010000

@17 -

00000000000010001

$M = D + M$ -

Ara. Sistemel

C-Instruction: $dest = M$, $comp = D+M$, $Sump = null$

111 1 000010 001 000 \rightarrow 1111000010001000

@16 -

0000000000001000

$M = M + 1$ -

C-Instruction: $dest = M$, $comp = M+1$, $Sump = null$

111 1 110111 001 000 \rightarrow 11111101110001000

@4 -

000000000000100

Op: JMP -

C-Instruction: $dest = null$, $comp = 0$, $Sump = JMP$

111 0 101010 000 111 \rightarrow 1110101010000111

@17 -

000000000010001

$P = M$ -

11111100000010000

@1 -

0000000000000001

Arch. Systems

$M = D$ -

C-Instruction: $dest = M, comp = D, jump = null$

111 0 001100 001 000 \rightarrow 111000 110000 1000

@ 21 -

00000000000010101

0; JMP -

1110101010000111