// Program: Flip.asm

// flips the values of RAM[0] and RAM[1]

Code:

@R1

D=M

This sets the D register to the value at R1

@temp

M=D // temp = R1

This stores the value of the D register (which is the value of R1) into a temporary variable temp.

@R0

D=M

This sets the D register to the value at R0

@R1

M=D // R1 = R0

This sets the value at R1 to the value of the D register (which is the value of R0)

@temp

D=M

This sets the D register to the value of the temporary variable temp (which is the original value of R1)

@R0

M=D // R0 = temp

This sets the value at R0 to the value of the D register (which is the original value of R1)

(END)

@END

0; JMP

This is an infinite loop that marks the end of the program. The program will jump to this location and stay here until it's manually stopped. So, this program swaps the values of R0 and R1 using a temporary variable.