Universal RAM Simulator

0. LOL

Program Syntax: INSTR = DIG* ALH3* DIG* PFM = ! INSTR

1. LOR

Register Syntax: REG = [016*#(-?) 016*] REGS = REG

2. LOI

ALU Syntax: ALU = (-?) 016* All tape get \$ ... $ delimiters

3. STO

4. STI

Initial: \( \ldots !INS_1; !INS_2; \ldots !INS_m; \#X_1, X_2, \ldots X_n \ldots \)

5. AOO

6. SUB

\( P|FM|G \) !INS_1; !INS_2; -- !INS_m $ Program P

7. SHF d

REG: \( \wedge \) $ Input Convention: Start P(x) with x in ALU

8. ABS

ALU: \( \wedge X_1 X_2 X_3 X_4 \ldots X_n \) $ Output: Last Insr is LOR 1; putting P(x) in ALU

9. JML

Start

Set up tape

labels (just for show) and As

Move x to ALU and lay $ S

Move all heads to As 1

Tape 1 head now scans

Find Label

From ALU

In the decode

Instruction

Find Register

From Program

Sub from ALU

Add into ALU

Find Register

Value Over ALU

Copy Register

Value Above ALU

Copy ALU

Into Register

Find Register

From ALU

Copy Register

Value Over ALU

Copy Register

Value Above ALU

Find Register

From ALU

Allocate New

Reg. From ALU

Shift Over

Right To

Make Room