

Class: CIS11 (22953)

Assignment: Project

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The screenshot displays the LC3 Simulator interface with three main windows:

- LC3Edit - test.asm**: Contains assembly code for a program that validates user input. It defines ASCII values for grades (A=80, B=70, C=60, D=50, E=40, F=30) and implements a subroutine to clear registers. The main routine prompts for input, validates it against these ranges, and either prints a success message or a failure message before restarting.
- LC3 Simulator - test.obj**: Shows the execution state with registers R0-R7, PC, PSR, and stack pointers. The PC is at address xFD79.
- LC3 Console**: Displays the program's output, including the prompt "Enter 5 test scores:", the scores entered (32, 97, 96, 79, 61), calculated statistics (Maximum Score: 96, Minimum Score: 32, Average Score: 75), and a confirmation message: "The results are displayed above. Would you like to run this program again? If Yes press Y. If No press N." The console also shows "----- Halting the processor -----".

At the bottom, the assembly process is shown as successful, with "Assembling C:\Users\JPC\Desktop\lc3-test.asm..." and "Starting Pass 1..." followed by "Pass 1 - 0 error(s)" and "Starting Pass 2..." followed by "Pass 2 - 0 error(s)".

Memory

Jump to address or label

Manage Labels

	0x	Label	Hex	Instruction
<input type="checkbox"/>	xFD75		xA22F	LDI R1, xFDA5
<input type="checkbox"/>	xFD76		x202F	LD R0, xFDA6
<input type="checkbox"/>	xFD77		x5040	AND R0, R1, R0
<input type="checkbox"/>	xFD78		x802C	STI R0, xFDA5
<input checked="" type="checkbox"/>	xFD79		x2003	LD R0, xFD7D
<input type="checkbox"/>	xFD7A		x2203	LD R1, xFD7E
<input type="checkbox"/>	xFD7B		x2E03	LD R7, xFD7F
<input type="checkbox"/>	xFD7C		xC1C0	RET
<input type="checkbox"/>	xFD7D		x006E	NOP
<input type="checkbox"/>	xFD7E		xFFF5	.FILL xFFF5
<input type="checkbox"/>	xFD7F		x3101	ST R0, xFC81
<input type="checkbox"/>	xFD80		x000A	NOP
<input type="checkbox"/>	xFD81		x002D	NOP
<input type="checkbox"/>	xFD82		x002D	NOP
<input type="checkbox"/>	xFD83		x002D	NOP
<input type="checkbox"/>	xFD84		x002D	NOP

Jump to PC

Assemble

Raw

Status

Registers

R0: x7FFF
R4: x0005
PC: xFD79

R1: xFFFF
R5: x0030
IR: x802C

R2: x3000
R6: xFFFFB
PSR: x8001

R3: x0015
R7: xFD75
CC: P

Clear R0-R7

Reset all registers

Step

Next

Finish

Run

Pause

Continue

Unhalt

☒ Follow PC

Console

Enter 5 test scores: *scores can range from 0 to 99

52 F
87 B
96 A
79 C
61 D
Maximum Score: 96
Minimum Score: 52
Average Score: 75
The results are displayed above. Would you like to run this program again?
If Yes press Y. If No press N.

----- Halting the processor -----

Clear Input Buffer (0 characters)

Clear Output

☒ Newline as 0x0A

☐ Newline as 0x0D

☐ Binary (leave newlines unchanged)