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Lab 11

Task 1

Set memory location 009 to -3. Increment by 3 and make it 0. Perform ISZ operation. Show the results.

INP

ISZ 009

OUT

HALT

The screenshot shows the Signlab simulator interface. On the left, the 'Registers' table lists AC, AR, DR, E, I, IR, PC, and S with their widths and current data values. The central pane displays assembly code: 1 INP, 2 ISZ 009, 3, 4 OUT, 5 HALT, and 6. On the right, the 'MAIN' memory table shows addresses 0 through 22, with address 9 containing the value -3.

Name	Width	Data
AC	16	2
AR	12	1
DR	16	0
E	1	0
I	1	0
IR	16	-8191
PC	12	6
S	1	-1

Addr	Data
0	63488
1	40969
2	62464
3	57345
4	0
5	0
6	0
7	0
8	0
9	-3
10	0
11	0
12	0
13	0
14	0
15	0
16	0
17	0
18	0
19	0
20	0
21	0
22	0

Output:

```
EXECUTING...
Enter Inputs, the first of which must be an Integer: 3
EXECUTION HALTED NORMALLY due to the setting of the bit(s): [HALT-BIT]
```

Task 2:

Show that ISZ doesn't skip when result $\neq 0$.

INP

ISZ 008

OUT

HALT

Output:

The screenshot displays the CPU Lab interface with the following components:

- Registers Table:**

Name	Width	Data
AC	16	5
AR	12	1
DR	16	1
E	1	0
I	1	0
IR	16	-8191
PC	12	4
S	1	-1

- Instruction List:**

```
1 INP
2 ISZ 008
3 OUT
4 HALT
5
```

- Memory Table (MAIN):**

Addr	Data
0	63488
1	40960
2	62464
3	57345
4	0
5	0
6	0
7	0
8	1
9	0
10	0
11	0
12	0
13	0
14	0
15	0
16	0
17	0
18	0
19	0
20	0
21	0
22	0

- Output:** 5
- Status:** EXECUTION HALTED NORMALLY due to the setting of the bit(s): [HALT-BIT]