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Lab 12

Tasks

Task 1:

Verify that CLA sets the accumulator (AC) to zero.

INP

OUT

CLA

OUT

HALT

```
EXECUTING...
Enter Inputs, the first of which must be an Integer: 9
Output:  9
Output:  0
EXECUTION HALTED NORMALLY due to the setting of the bit(s): [HALT-BIT]
```

Task 2:

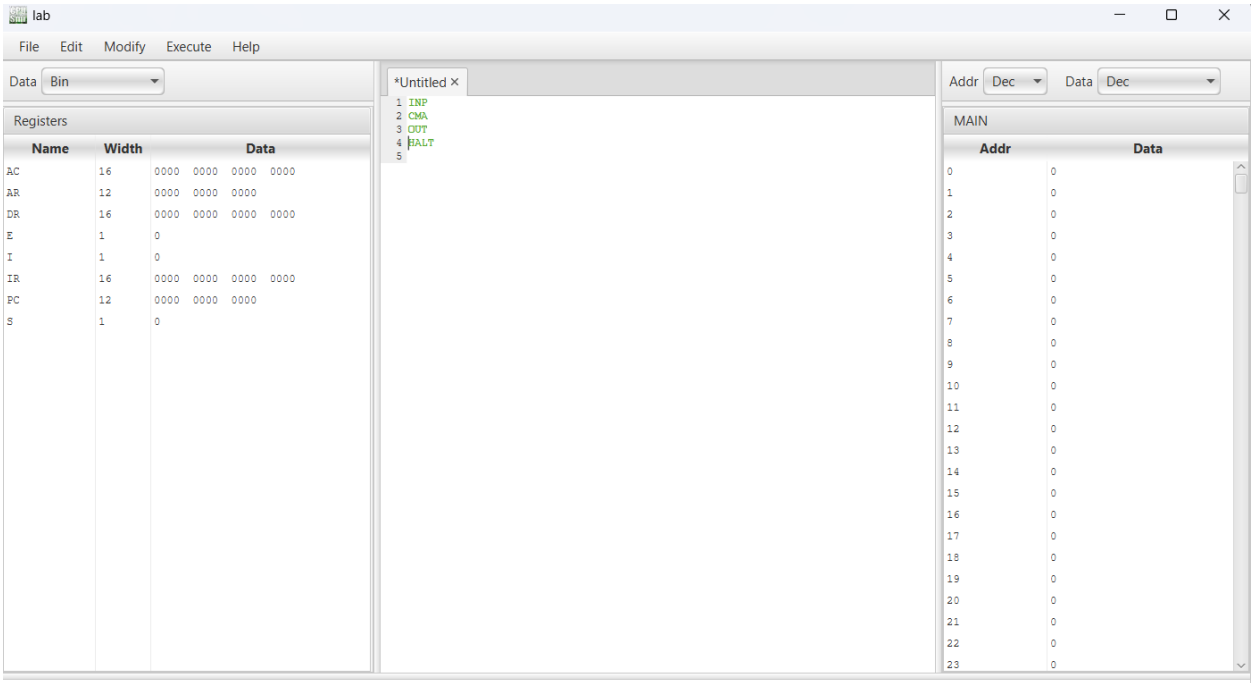
Verify that CMA inverts all bits in the AC.

INP

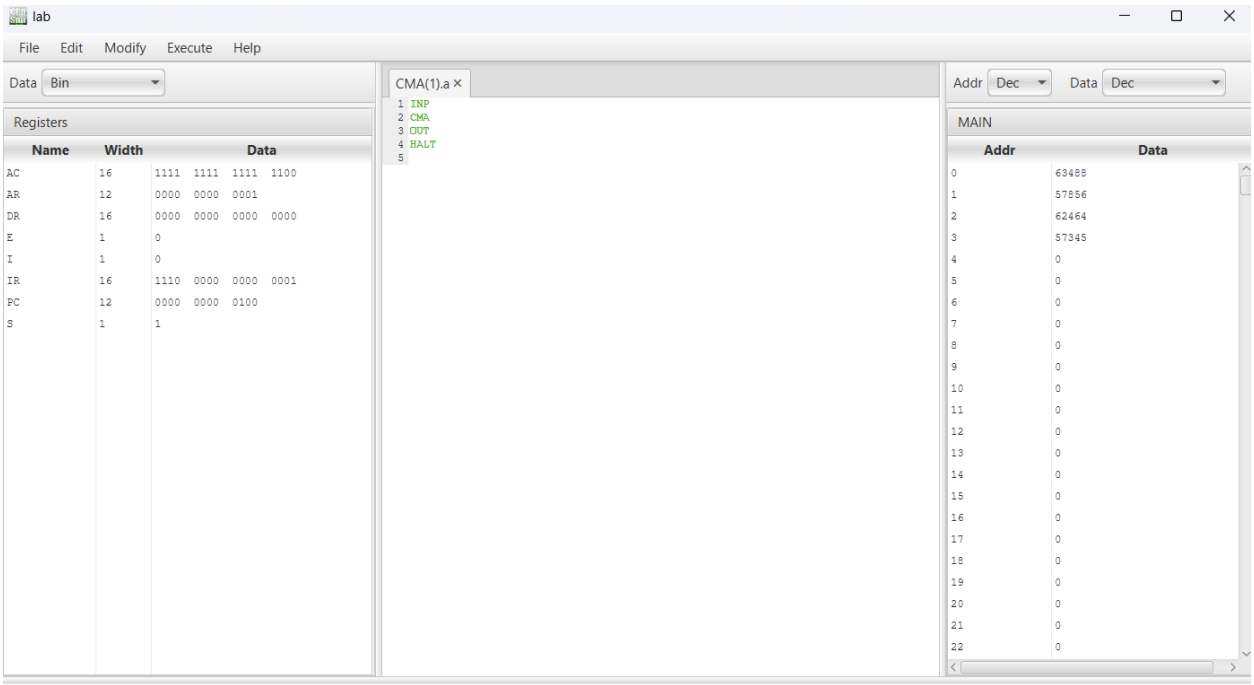
CMA

OUT

HALT


lab
File Edit Modify Execute Help
Data Bin
Registers
Name Width Data
AC 16 0000 0000 0000 0000
AR 12 0000 0000 0000
DR 16 0000 0000 0000 0000
E 1 0
I 1 0
IR 16 0000 0000 0000 0000
PC 12 0000 0000 0000
S 1 0
*Untitled ×
1 INP
2 CMA
3 OUT
4 HALT
5
Addr Dec Data Dec
MAIN
Addr Data
0 0
1 0
2 0
3 0
4 0
5 0
6 0
7 0
8 0
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
23 0

Output:



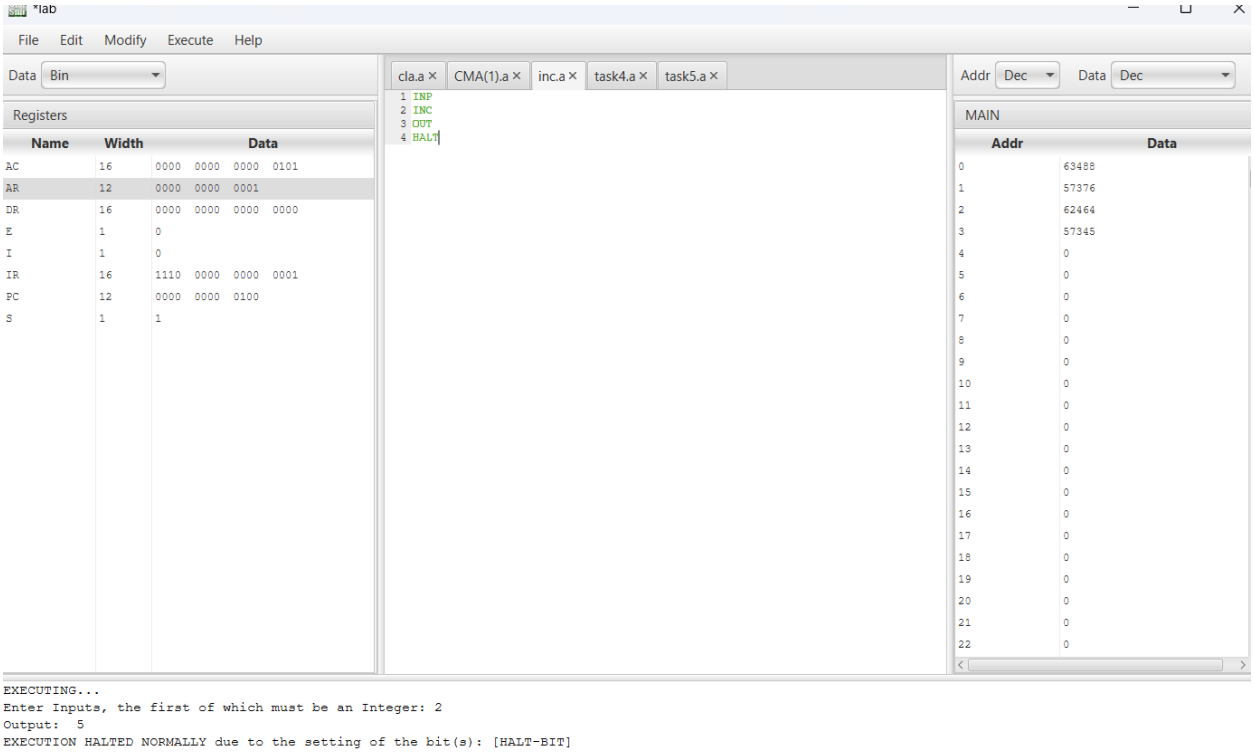
Task 3:

INP

INC

OUT

HALT



Task 4:

Skip next instruction only if AC is positive.

INP

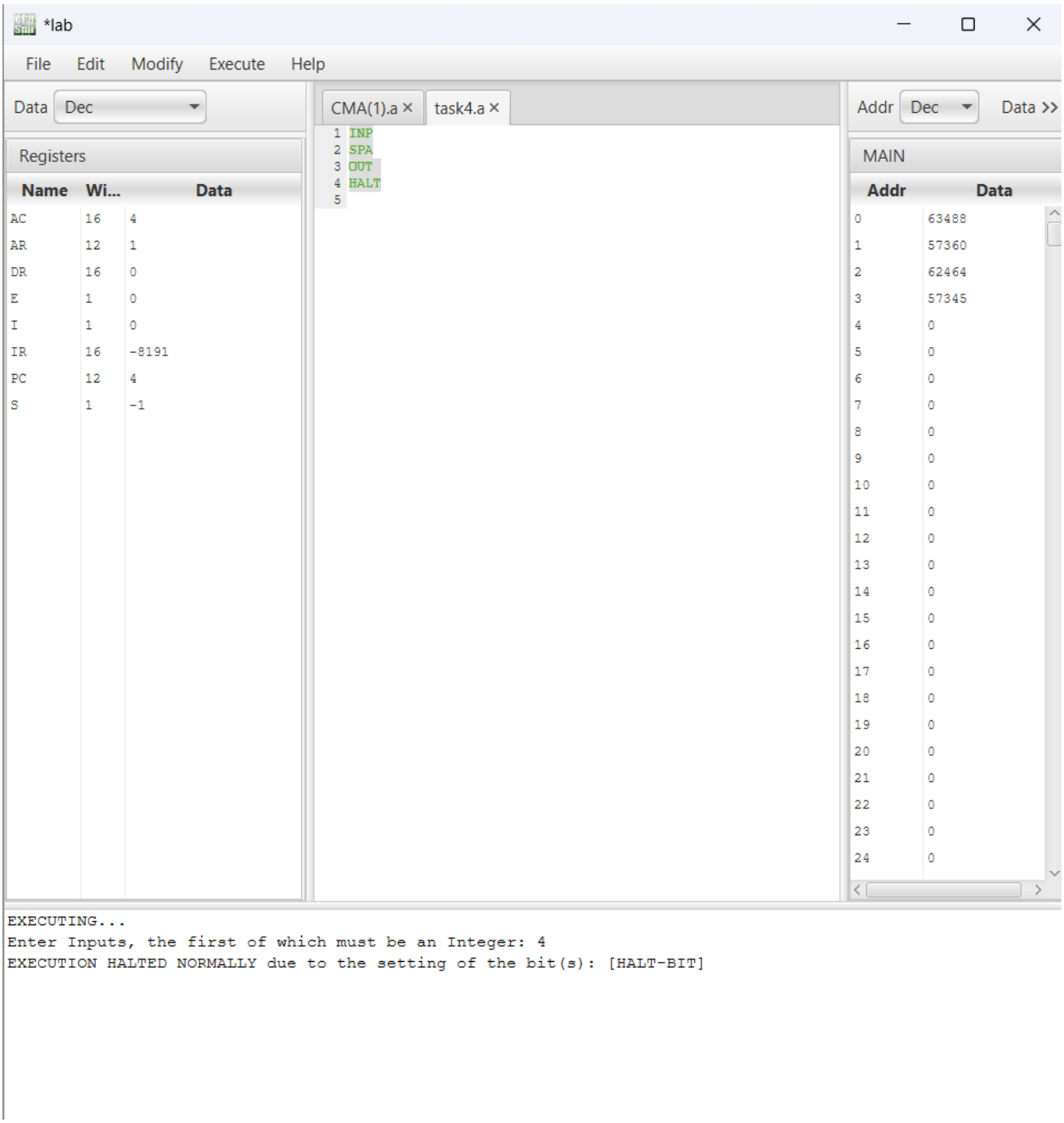
SPA

OUT

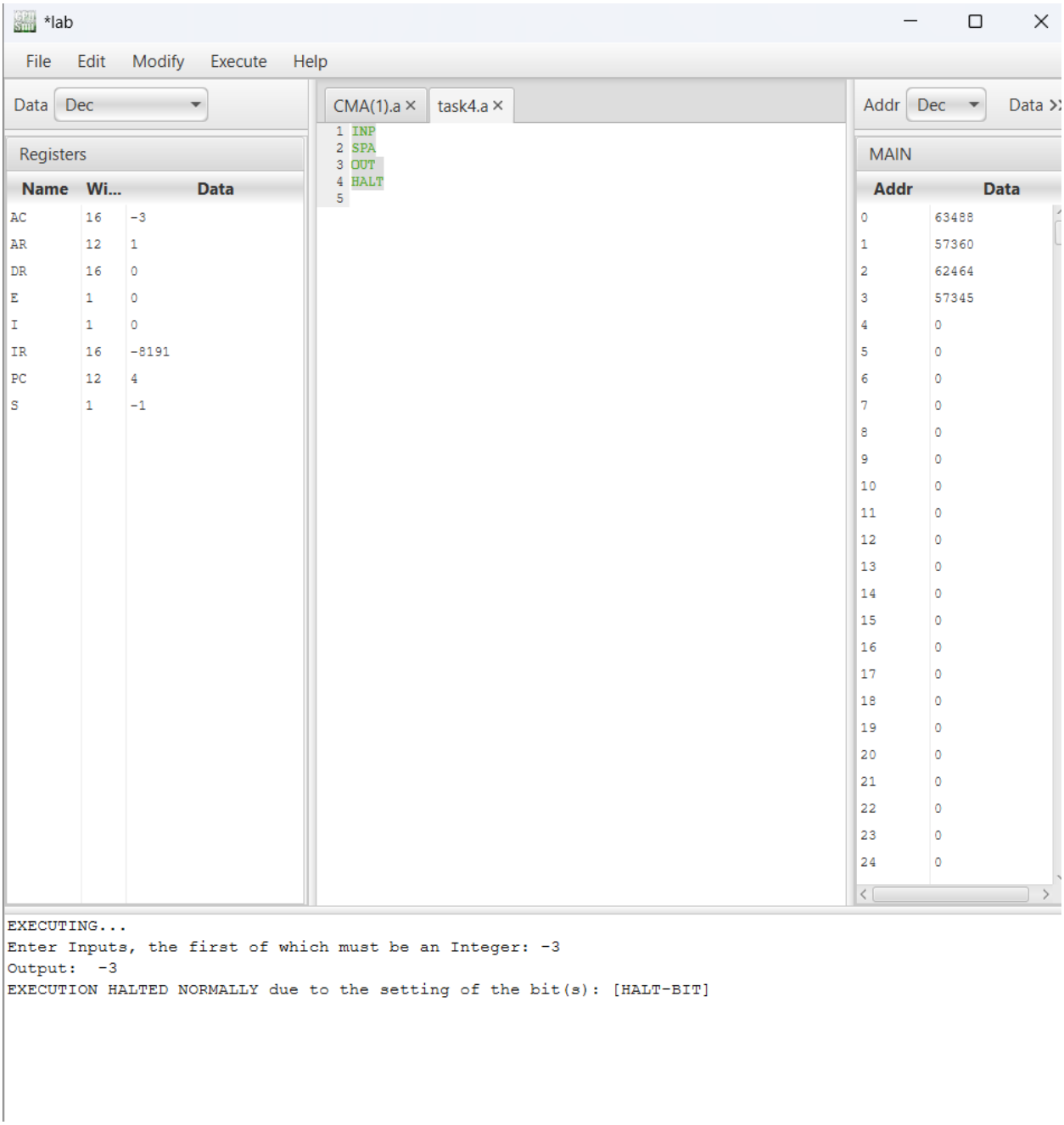
HALT

Output:

On entering positive number:



On entering negative number:



Task 5:

Skip next instruction only if AC is negative.

INP

SNA

OUT

HALT

Output:

On entering negative number:

```
EXECUTING...
Enter Inputs, the first of which must be an Integer: -2
EXECUTION HALTED NORMALLY due to the setting of the bit(s): [HALT-BIT]
```

On entering positive number:

```
EXECUTING...
Enter Inputs, the first of which must be an Integer: 10
Output:  10
EXECUTION HALTED NORMALLY due to the setting of the bit(s): [HALT-BIT]
```