

Task No. 1: Take any integer as input, if the number is greater than 5 print it

If $a > 5$, print a

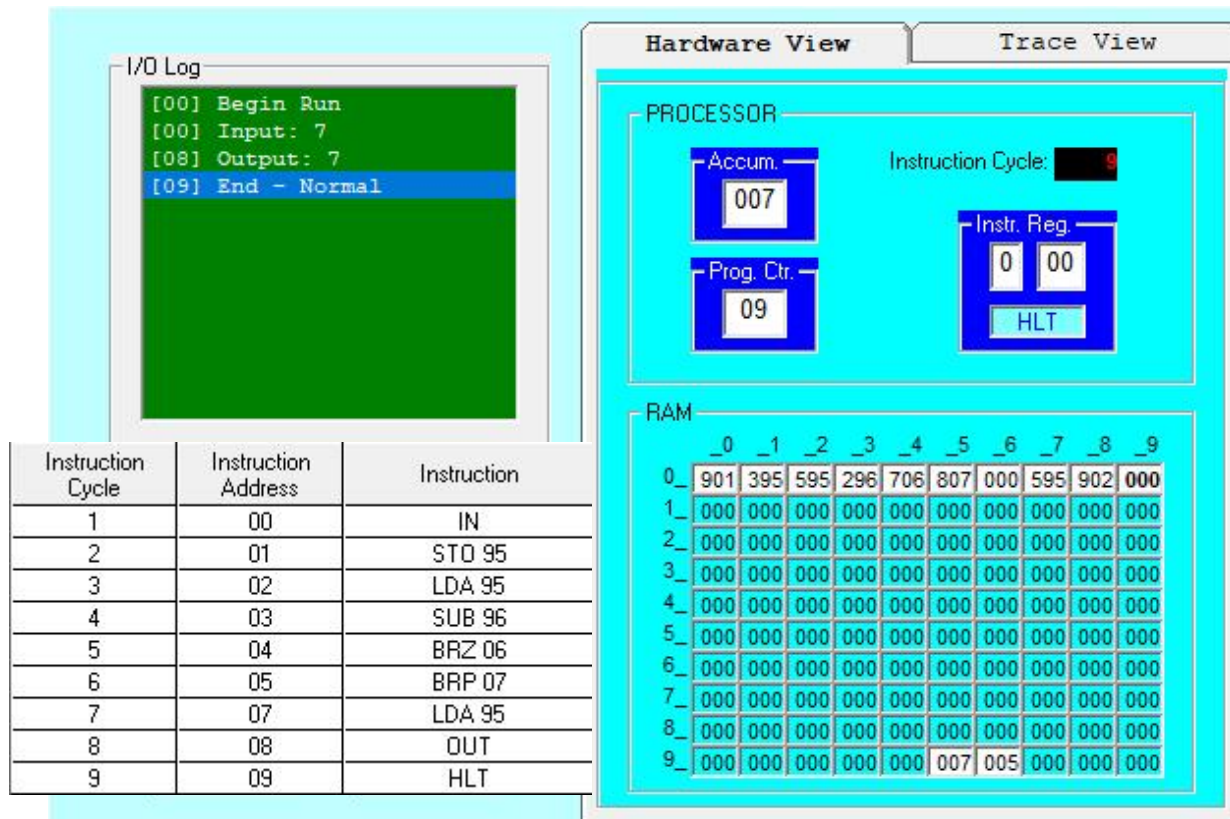
Else if $a = 0$, then Halt

Else if $a < 5$, then halt

Solution:

```
in
sto 95
lda 95
sub 96
brz 06
brp 07
hlt
lda 95
out
hlt
*96
dat 005
```

Output:

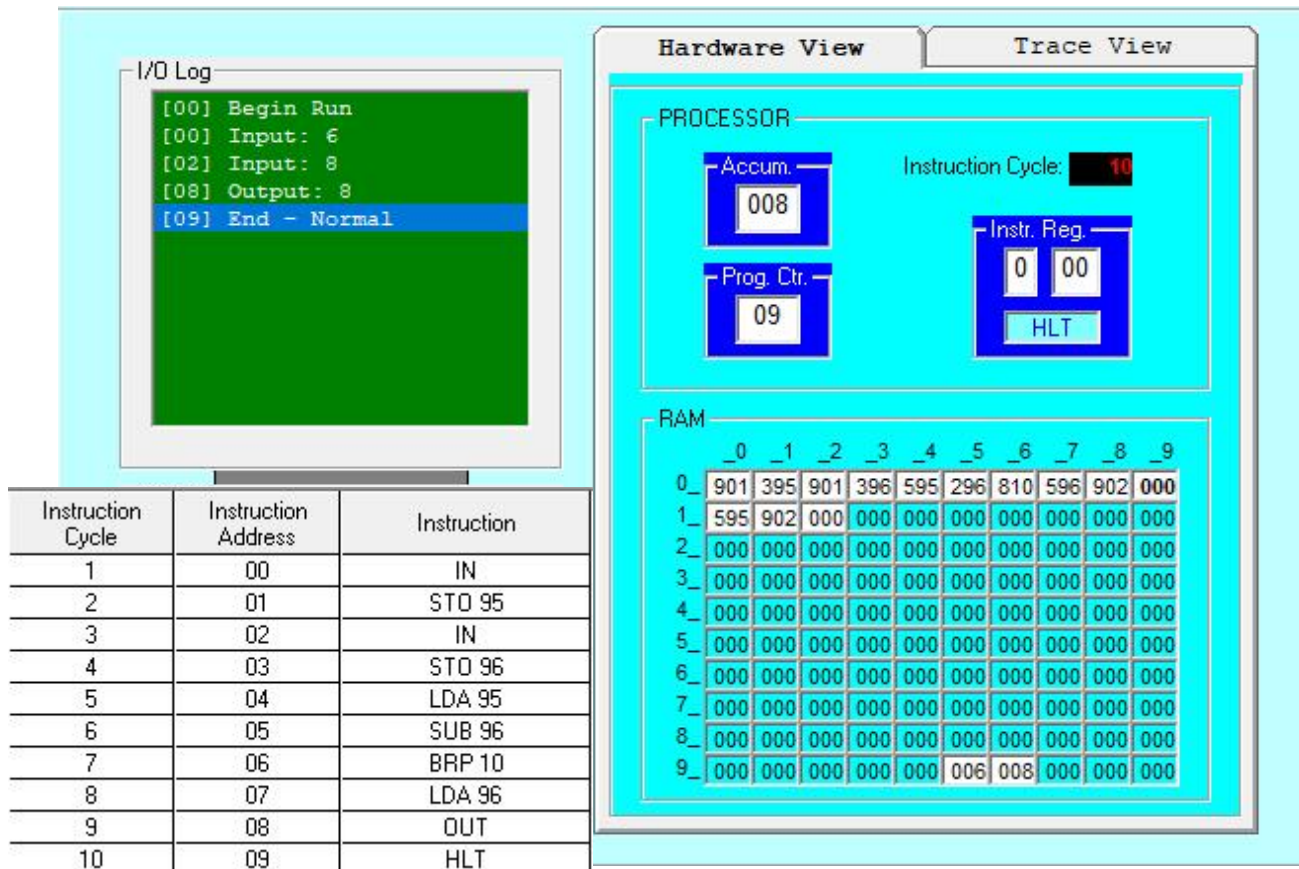


Task No. 2: Take two input from user and print the largest number.

Solution:

```
in
sto 95
in
sto 96
lda 95
sub 96
brp 10
lda 96
out 96
hlt
lda 95
out 95
hlt
```

Output:



Task No. 3: Write pseudocode for the following code:

Solution:

```
in
sto 90
in
```

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Computer Architecture and logic design lab Introduction to VVM

```
sto 91
sub 90
brz 07
brp 10
lda 90
add 91
out
hlt
lda 91
sub 90
out
hlt
```

Output:

Input A

Input B

Subtract B-A

If (branch ==0)

```
{      Load A
      Add A+B
      Output the Result & terminate }
```

Else if (branch==positive number)

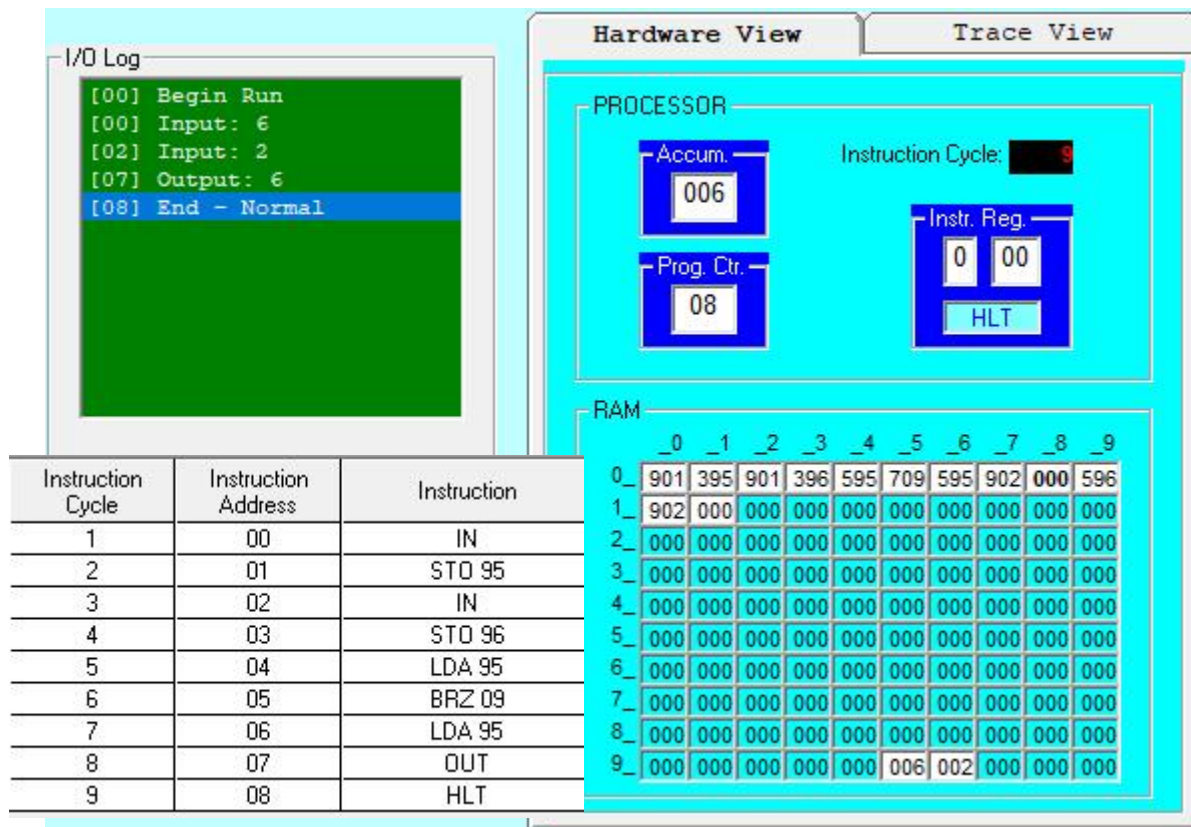
```
{      Load B
      Subtract B-A
      Output the Result & terminate }
```

Task No. 4: Take two inputs and print the first non-zero number.

Solution:

```
in
sto 95
in
sto 96
lda 95
brz 09
lda 95
out
hlt
lda 96
out
```

hlt

Output:**Task No. 5: Take two inputs and subtract them if $a \neq 0$ else add them.****Solution:**

```

in
sto 95
in
sto 96
lda 95
brz 09
sub 96
out
hlt
lda 95
add 96
out
hlt

```

Output:

The screenshot displays the VVM interface with three main sections:

- I/O Log:** A green window showing the execution log:


```
[00] Begin Run
[00] Input: 7
[02] Input: -2
[07] Output: 9
[08] End - Normal
```
- Hardware View:** A cyan window showing the internal state of the processor and RAM.
 - PROCESSOR:**
 - Accum. (Accumulator): 009
 - Prog. Ctr. (Program Counter): 08
 - Instr. Reg. (Instruction Register): 0 00, HLT
 - Instruction Cycle: 9
 - RAM:** A table showing memory contents for addresses 0 to 9.

	_0	_1	_2	_3	_4	_5	_6	_7	_8	_9
0	901	395	901	396	595	709	296	902	000	595
1	196	902	000	000	000	000	000	000	000	000
2	000	000	000	000	000	000	000	000	000	000
3	000	000	000	000	000	000	000	000	000	000
4	000	000	000	000	000	000	000	000	000	000
5	000	000	000	000	000	000	000	000	000	000
6	000	000	000	000	000	000	000	000	000	000
7	000	000	000	000	000	000	000	000	000	000
8	000	000	000	000	000	000	000	000	000	000
9	000	000	000	000	000	007	002	000	000	000

Below the Hardware View, there are control buttons: Run, Step, Pause, Restart, a speed slider (S to F), and checkboxes for Show Source Window and Tick. Help and Return buttons are at the bottom.

Hardware View		Trace View
Instruction Cycle	Instruction Address	Instruction
1	00	IN
2	01	STO 95
3	02	IN
4	03	STO 96
5	04	LDA 95
6	05	BRZ 09
7	06	SUB 96
8	07	OUT
9	08	HLT