Bahria University,
Karachi Campus

LAB EXPERIMENT NO.
03

LIST OF TASKS

TASK NO	OBJECTIVE
1	Write a program in which take input if input is equal to 0 then print output otherwise again take input.Hint This is used by while loop.
2	Write a program in which take input and if input is less than 10 then add otherwise terminate the program.
3	Write a program in which print table.

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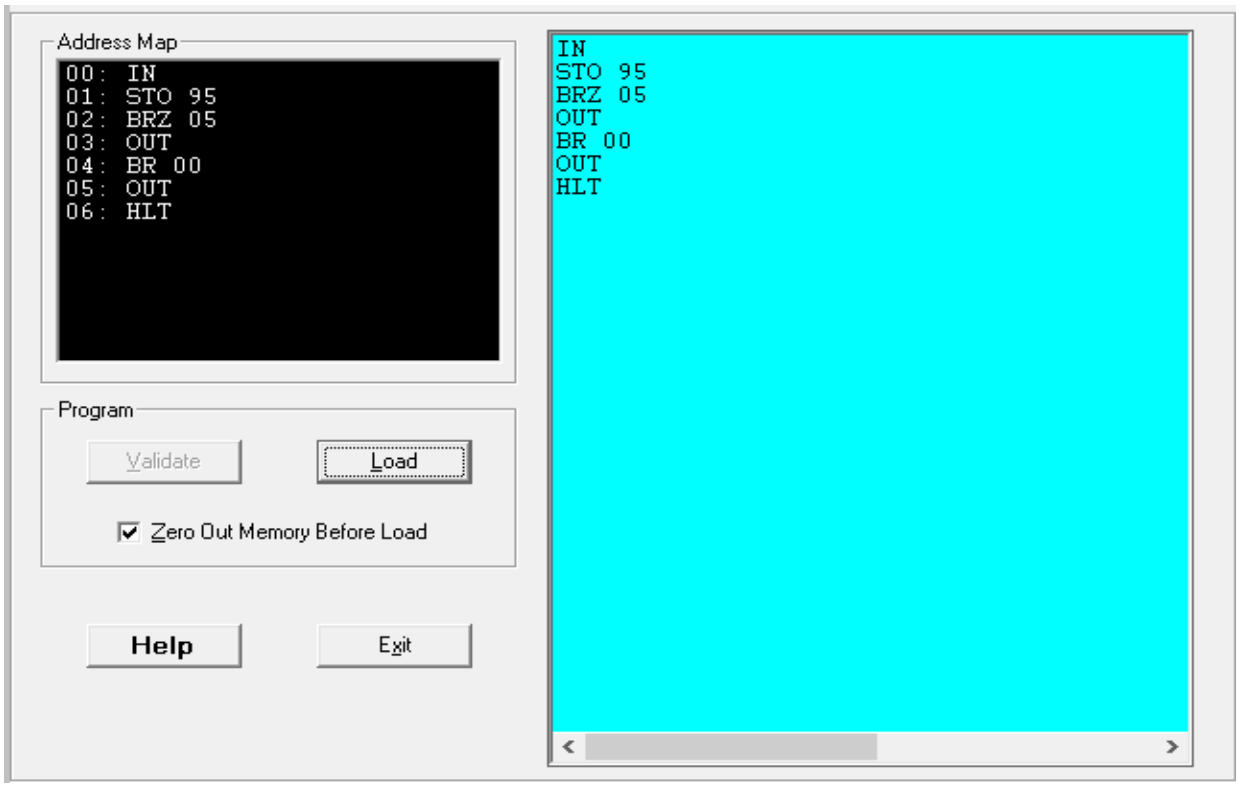
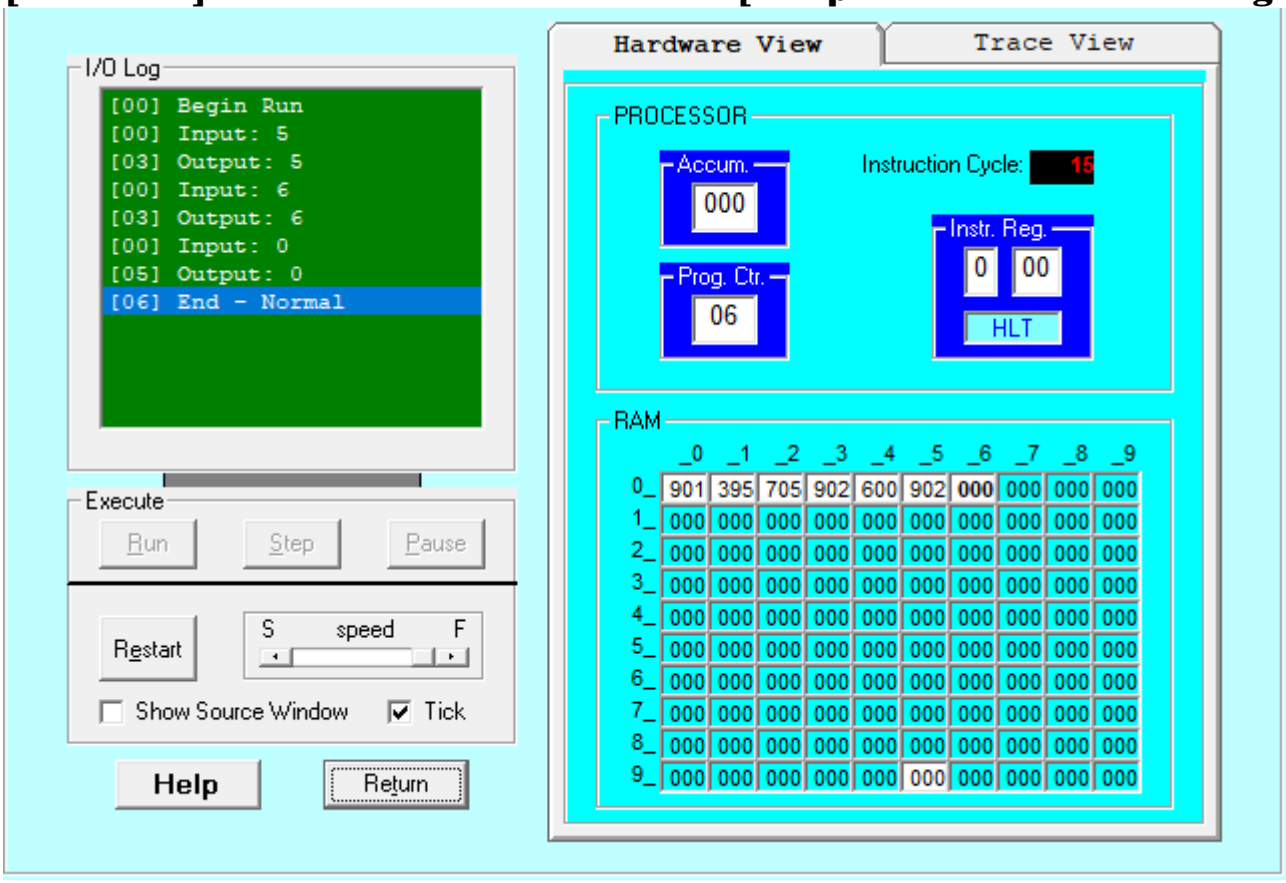
Task No. 1: Write a program in which take input if input is equal to 0 then print output otherwise again take input.Hint This is used by while loop.

Solution:

```
IN
STO 95
BRZ 05
OUT
BR 00
OUT
HLT
```

Output:



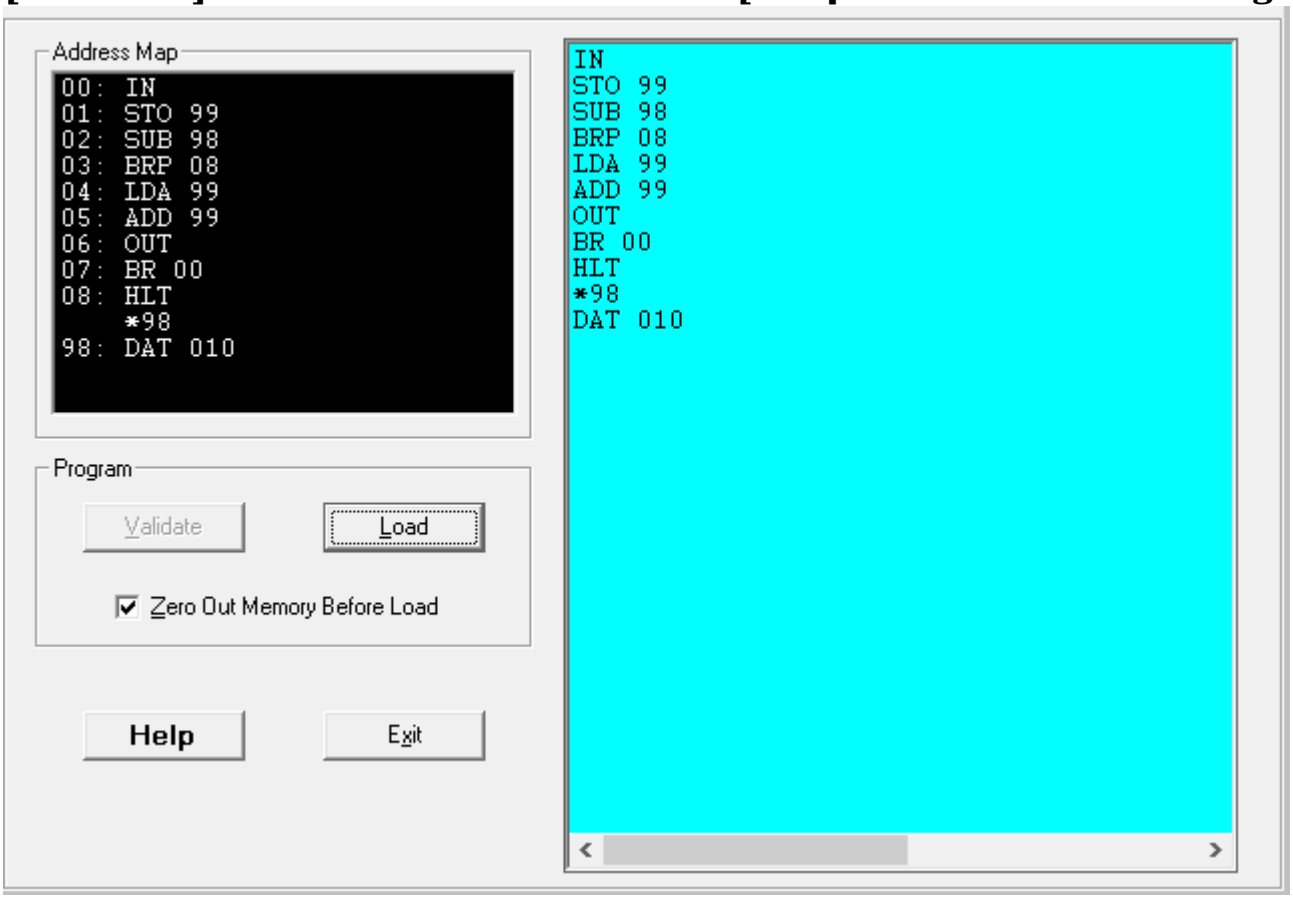


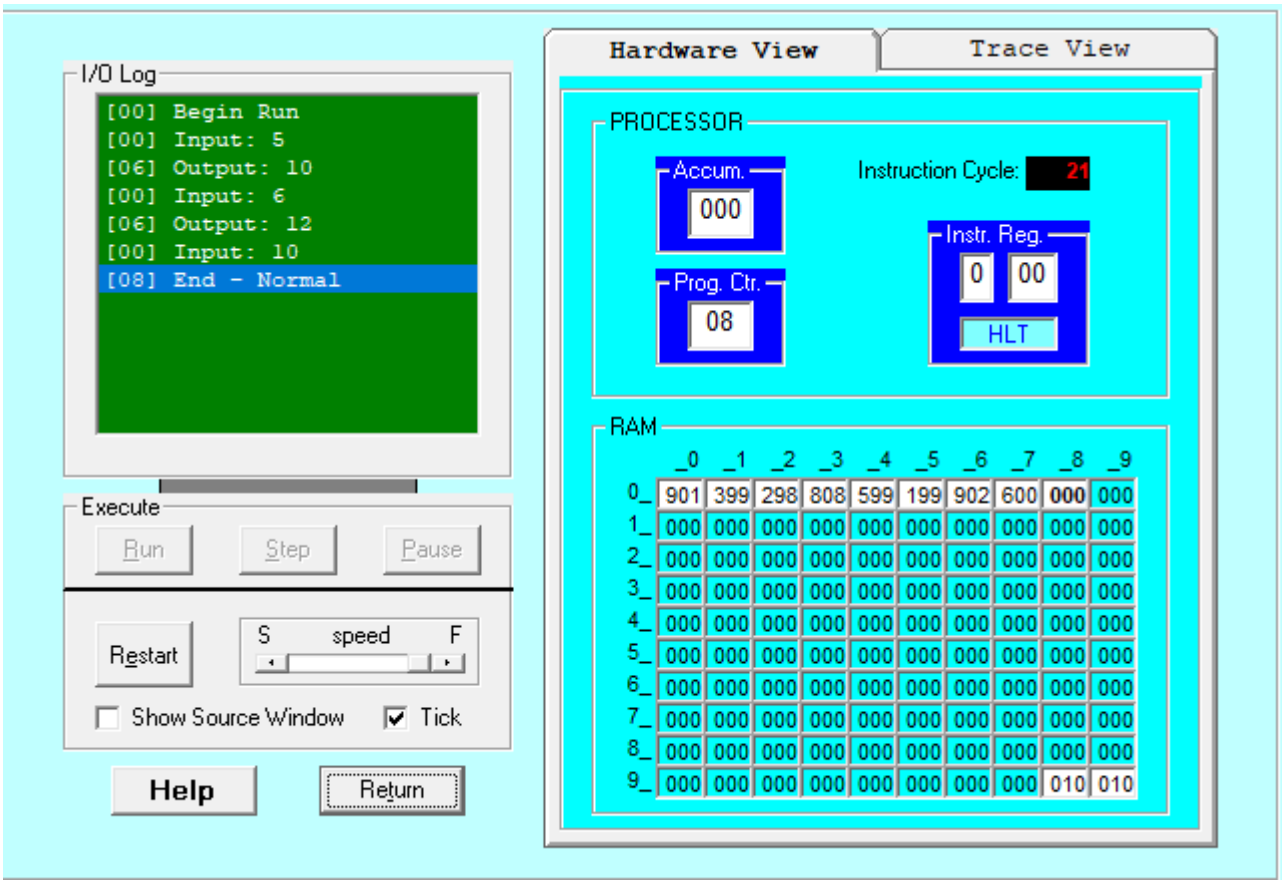
Task No. 2: **Write a program in which take input and if input is less than 10 then add otherwise terminate the program.**

Solution:

```
IN
STO 99
SUB 98
BRP 08
LDA 99
ADD 99
OUT
BR 00
HLT
*98
DAT 010
```

Output:


Address Map
00: IN
01: STO 99
02: SUB 98
03: BRP 08
04: LDA 99
05: ADD 99
06: OUT
07: BR 00
08: HLT
*98
98: DAT 010
Program
Validate
Load
Zero Out Memory Before Load
Help
Exit
IN
STO 99
SUB 98
BRP 08
LDA 99
ADD 99
OUT
BR 00
HLT
*98
DAT 010

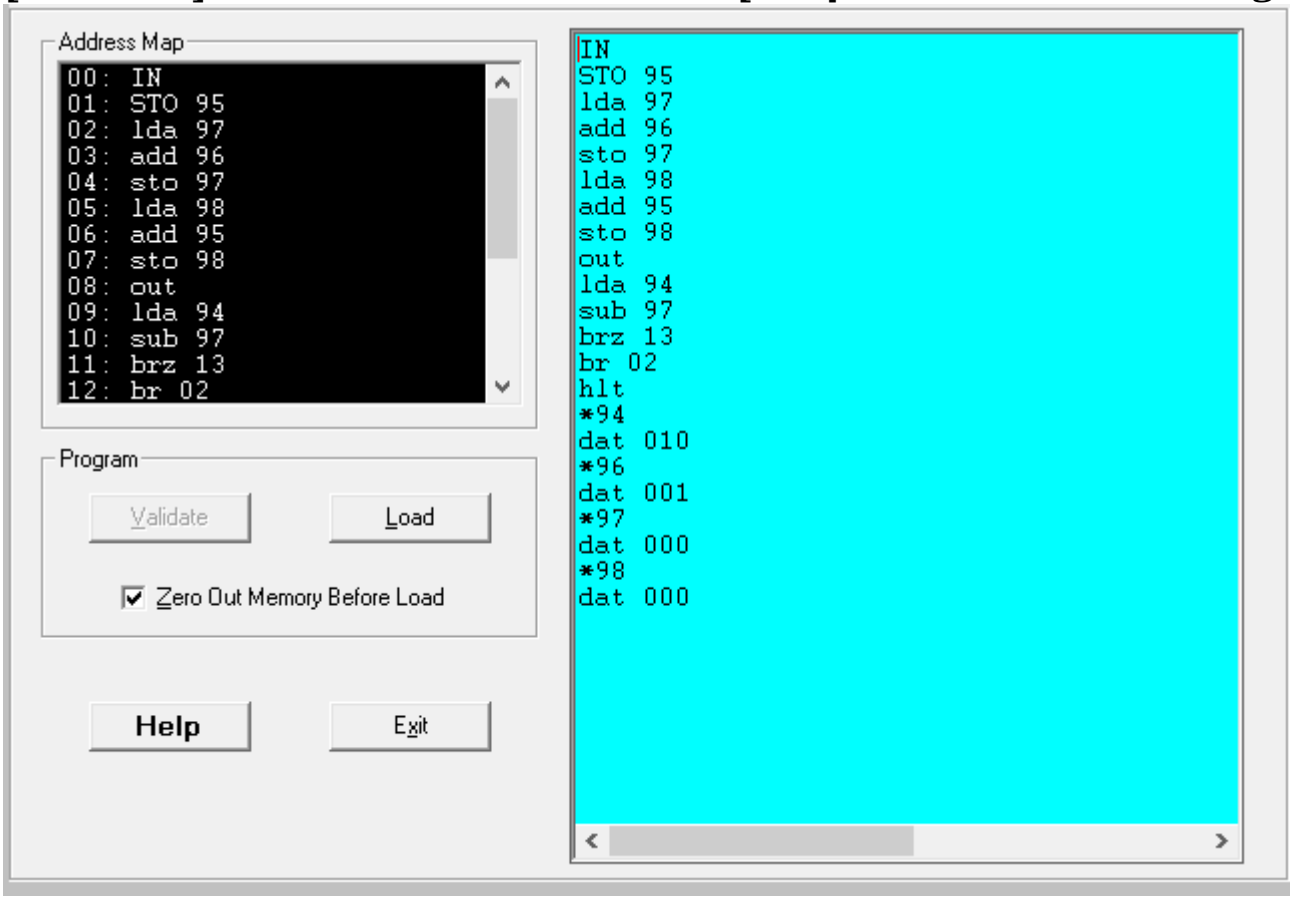

I/O Log
[00] Begin Run
[00] Input: 5
[06] Output: 10
[00] Input: 6
[06] Output: 12
[00] Input: 10
[08] End - Normal
Execute
Run
Step
Pause
Restart
S speed F
Show Source Window
Tick
Help
Return
Hardware View
Trace View
PROCESSOR
Accum.
000
Instruction Cycle: 21
Instr. Reg.
0 00
HLT
Prog. Ctr.
08
RAM
_0 _1 _2 _3 _4 _5 _6 _7 _8 _9
0_ 901 399 298 808 599 199 902 600 000 000
1_ 000 000 000 000 000 000 000 000 000 000
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_ 000 000 000 000 000 000 000 000 010 010

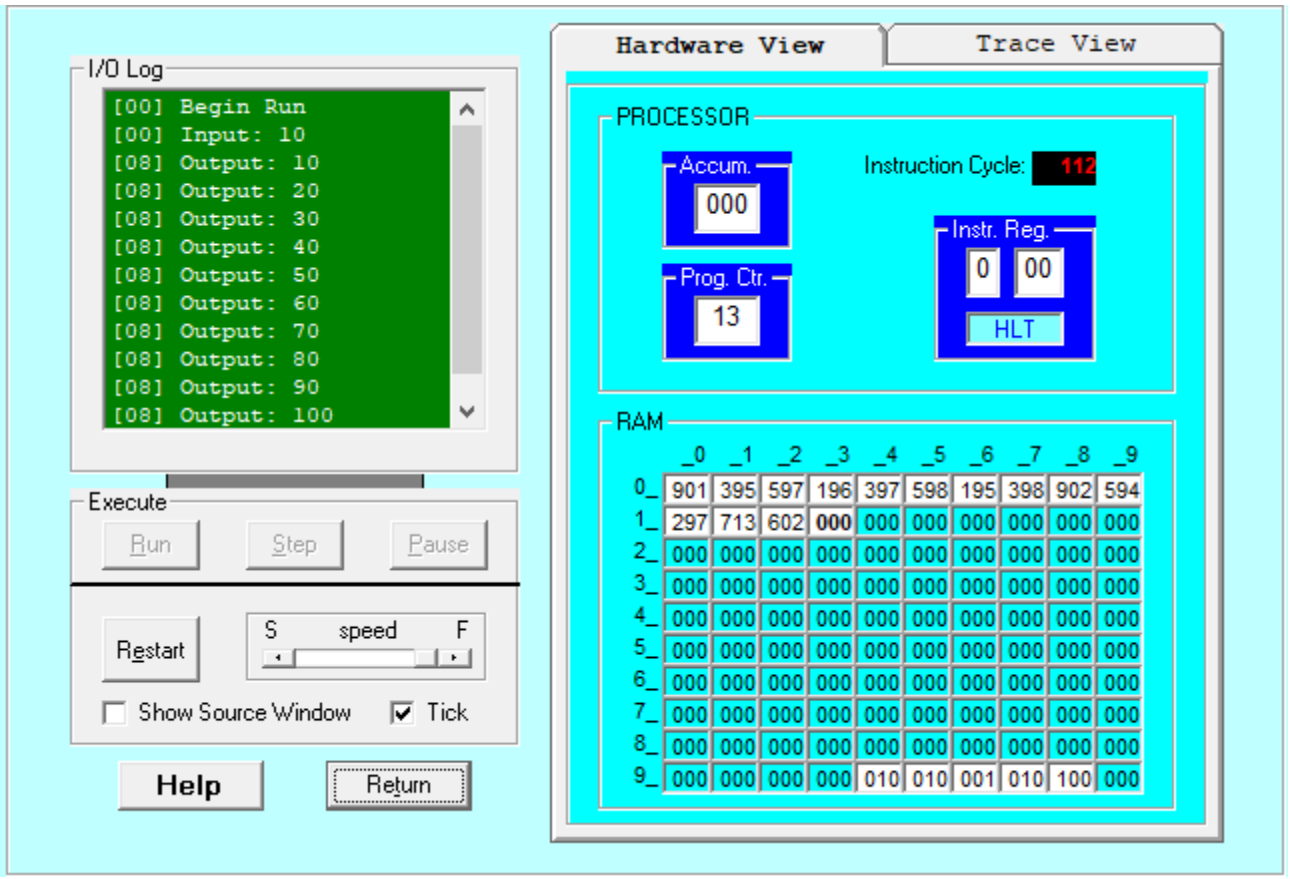
Task No. 3: **Write a program in which print table.**

Solution:

```
IN
STO 95
lda 97
add 96
sto 97
lda 98
add 95
sto 98
out
lda 94
sub 97
brz 13
br 02
hlt
*94
dat 010
*96
dat 001
*97
dat 000
*98
dat 000
```

Output:


Address Map
00: IN
01: STO 95
02: lda 97
03: add 96
04: sto 97
05: lda 98
06: add 95
07: sto 98
08: out
09: lda 94
10: sub 97
11: brz 13
12: br 02
Program
Validate
Load
Zero Out Memory Before Load
Help
Exit
IN
STO 95
lda 97
add 96
sto 97
lda 98
add 95
sto 98
out
lda 94
sub 97
brz 13
br 02
hlt
*94
dat 010
*96
dat 001
*97
dat 000
*98
dat 000


I/O Log
[00] Begin Run
[00] Input: 10
[08] Output: 10
[08] Output: 20
[08] Output: 30
[08] Output: 40
[08] Output: 50
[08] Output: 60
[08] Output: 70
[08] Output: 80
[08] Output: 90
[08] Output: 100
Execute
Run
Step
Pause
Restart
S speed F
Show Source Window
Tick
Help
Return
Hardware View
Trace View
PROCESSOR
Accum.
000
Instruction Cycle:
112
Instr. Reg.
0
00
HLT
Prog. Ctr.
13
RAM
_0 _1 _2 _3 _4 _5 _6 _7 _8 _9
0_ 901 395 597 196 397 598 195 398 902 594
1_ 297 713 602 000 000 000 000 000 000 000
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_ 000 000 000 000 010 010 001 010 100 000