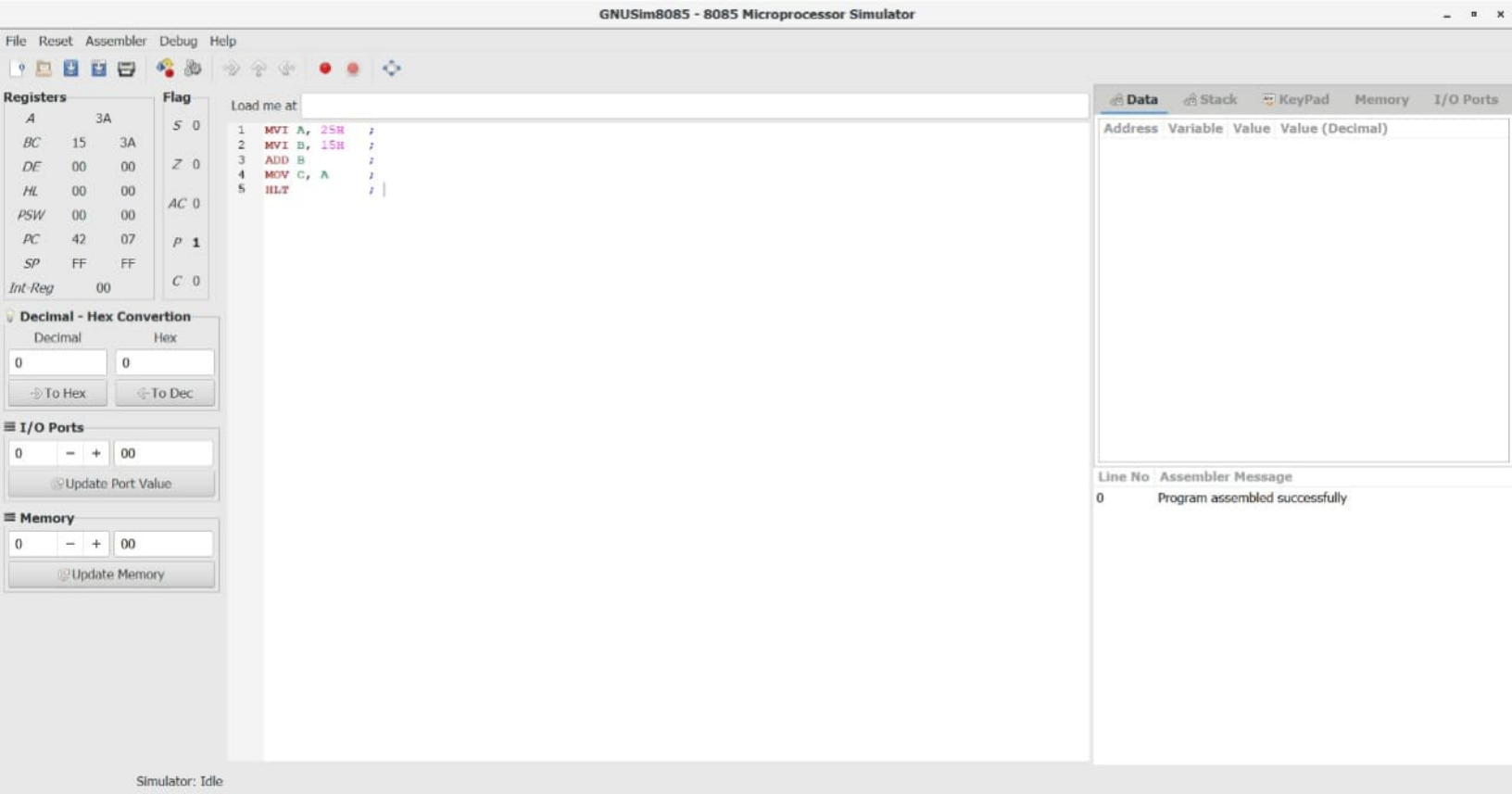
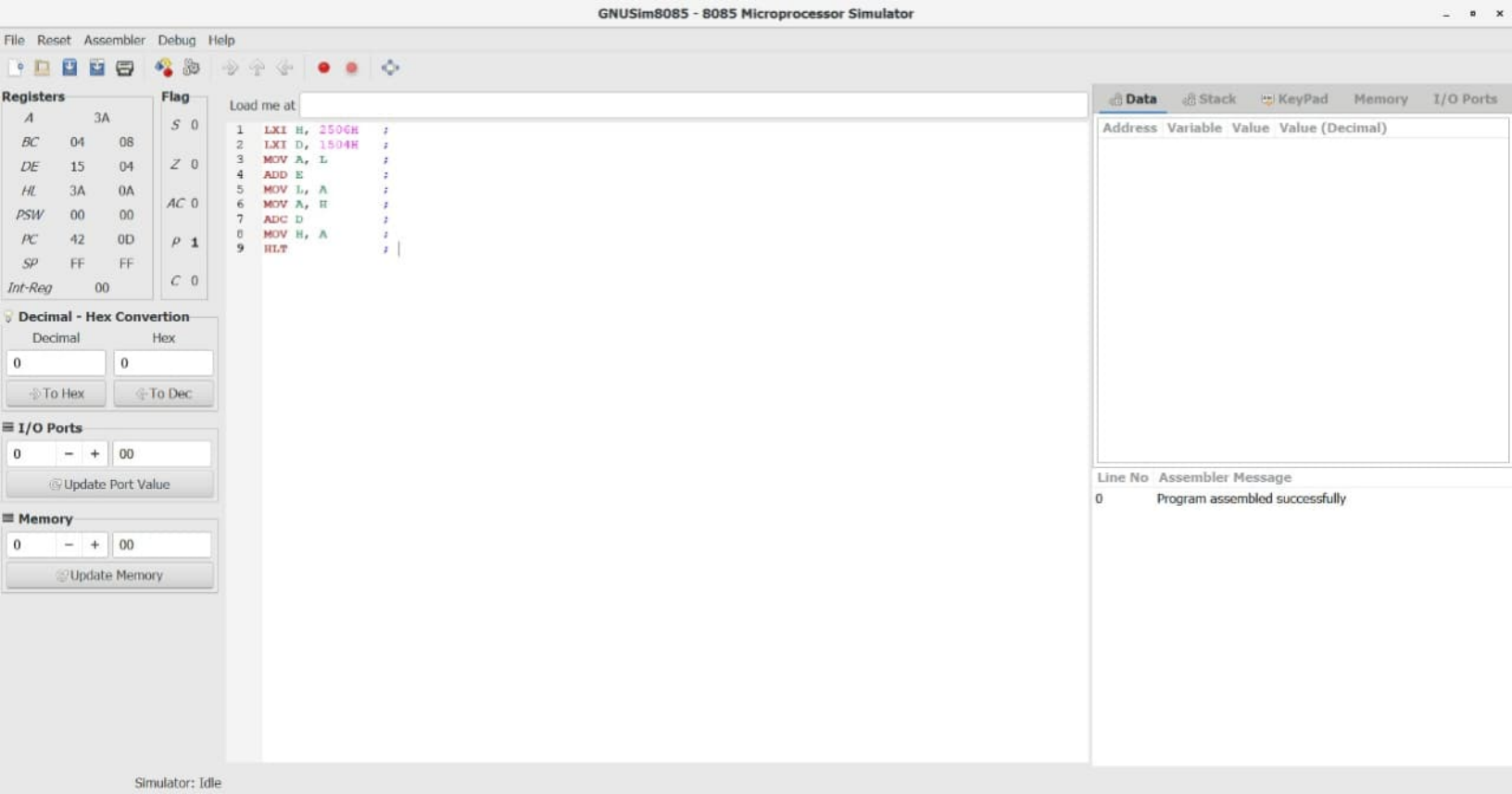
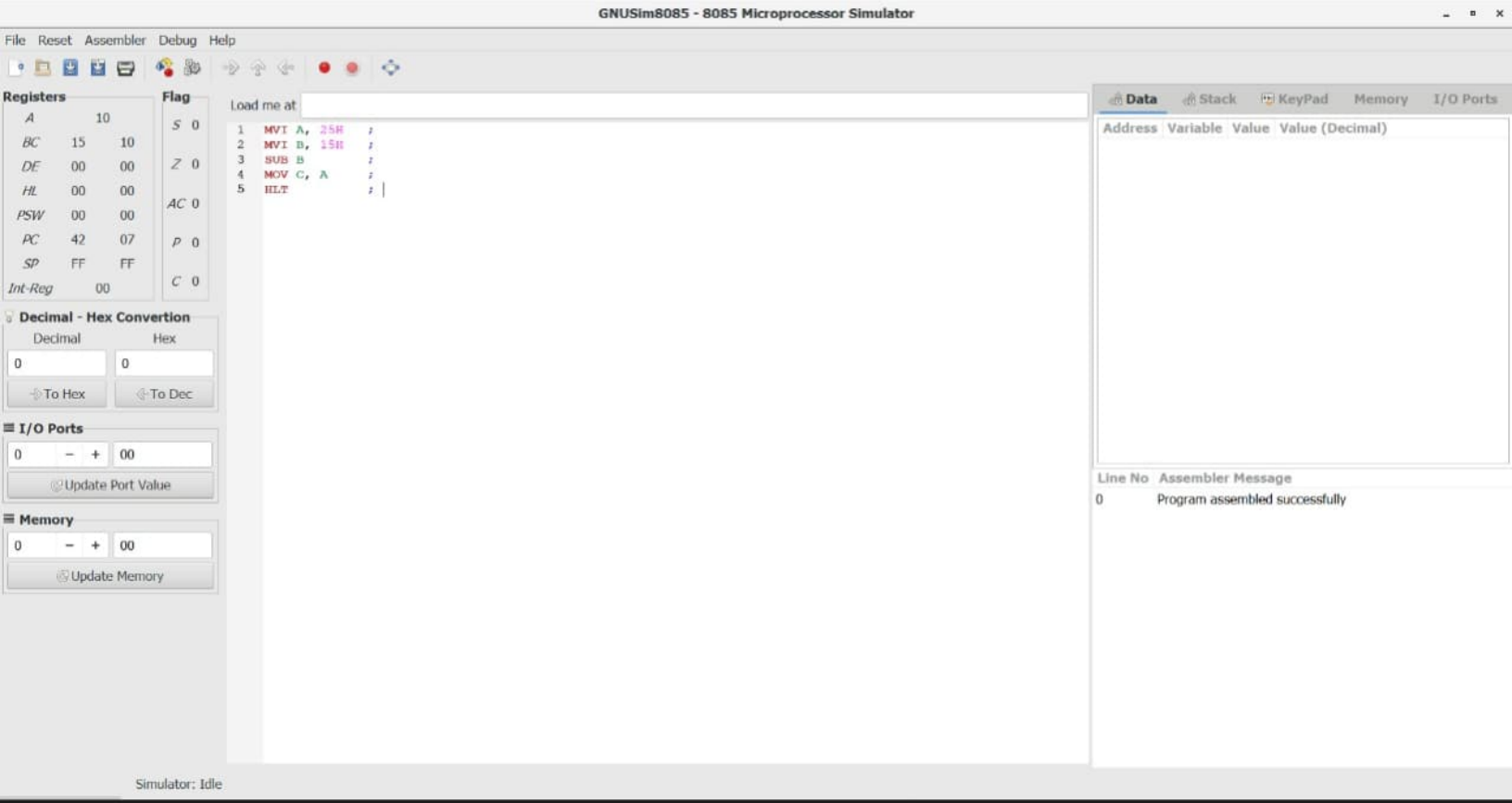
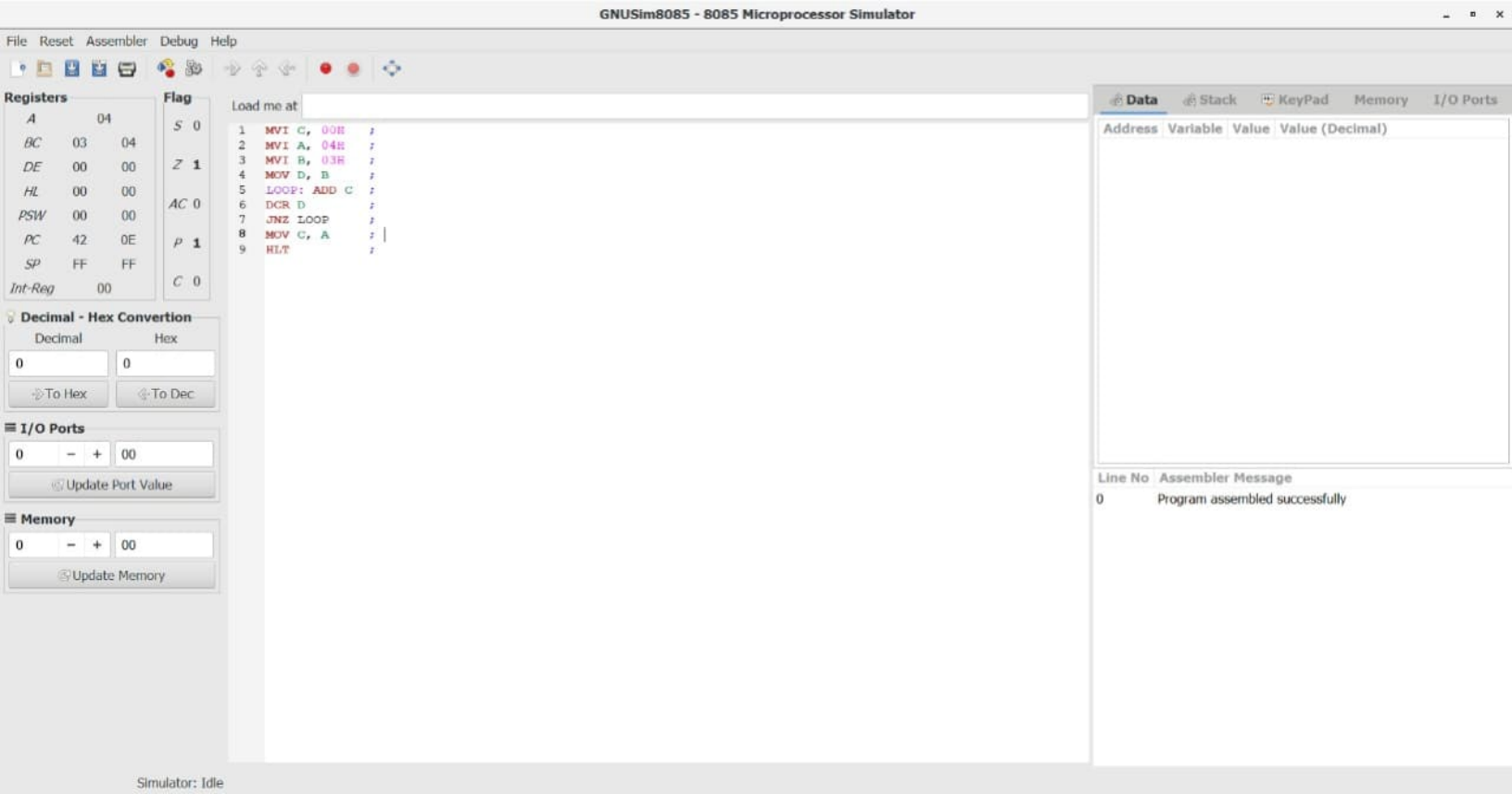

GNUSim8085 - 8085 Microprocessor Simulator
File Reset Assembler Debug Help
Registers
A 3A
BC 15 3A
DE 00 00
HL 00 00
PSW 00 00
PC 42 07
SP FF FF
Int-Reg 00
Flag
S 0
Z 0
AC 0
P 1
C 0
Decimal - Hex Convertion
Decimal
Hex
0
0
To Hex
To Dec
I/O Ports
0 − + 00
Update Port Value
Memory
0 − + 00
Update Memory
Load me at
1 MVI A, 25H ;
2 MVI B, 15H ;
3 ADD B ;
4 MOV C, A ;
5 HLT ;
Data
Stack
KeyPad
Memory
I/O Ports
Address Variable Value Value (Decimal)
Line No Assembler Message
0 Program assembled successfully
Simulator: Idle


GNUSim8085 - 8085 Microprocessor Simulator
File Reset Assembler Debug Help
Registers
A 3A
BC 04 08
DE 15 04
HL 3A 0A
PSW 00 00
PC 42 0D
SP FF FF
Int-Reg 00
Flag
S 0
Z 0
AC 0
P 1
C 0
Decimal - Hex Convertion
Decimal
Hex
0
0
To Hex
To Dec
I/O Ports
0 − + 00
Update Port Value
Memory
0 − + 00
Update Memory
Load me at
1 LXI H, 2506H ;
2 LXI D, 1504H ;
3 MOV A, L ;
4 ADD E ;
5 MOV L, A ;
6 MOV A, H ;
7 ADC D ;
8 MOV H, A ;
9 HLT ;
Data
Stack
KeyPad
Memory
I/O Ports
Address Variable Value Value (Decimal)
Line No Assembler Message
0 Program assembled successfully
Simulator: Idle


GNUSim8085 - 8085 Microprocessor Simulator
File Reset Assembler Debug Help
Registers
A 10
BC 15 10
DE 00 00
HL 00 00
PSW 00 00
PC 42 07
SP FF FF
Int-Reg 00
Flag
S 0
Z 0
AC 0
P 0
C 0
Decimal - Hex Convertion
Decimal
Hex
0
0
To Hex
To Dec
I/O Ports
0 − + 00
Update Port Value
Memory
0 − + 00
Update Memory
Load me at
1 MVI A, 25H ;
2 MVI B, 15H ;
3 SUB B ;
4 MOV C, A ;
5 HLT ;
Data
Stack
KeyPad
Memory
I/O Ports
Address Variable Value Value (Decimal)
Line No Assembler Message
0 Program assembled successfully
Simulator: Idle


GNUSim8085 - 8085 Microprocessor Simulator
File Reset Assembler Debug Help
Registers
A 04
BC 03 04
DE 00 00
HL 00 00
PSW 00 00
PC 42 0E
SP FF FF
Int-Reg 00
Flag
S 0
Z 1
AC 0
P 1
C 0
Decimal - Hex Convertion
Decimal
Hex
0
0
To Hex
To Dec
I/O Ports
0 - + 00
Update Port Value
Memory
0 - + 00
Update Memory
Load me at
1 MVI C, 00H ;
2 MVI A, 04H ;
3 MVI B, 03H ;
4 MOV D, B ;
5 LOOP: ADD C ;
6 DCR D ;
7 JNZ LOOP ;
8 MOV C, A ;
9 HLT ;
Data
Stack
KeyPad
Memory
I/O Ports
Address Variable Value Value (Decimal)
Line No Assembler Message
0 Program assembled successfully
Simulator: Idle

File Reset Assembler Debug Help

Registers

A	10	
BC	04	08
DE	15	04
HL	10	02
PSW	00	00
PC	42	0D
SP	FF	FF
Int-Reg	00	

Flag

S 0
Z 0
AC 0
P 0
C 0

Decimal - Hex Convertion

Decimal: 0 — To Hex
Hex: 0 — To Dec

I/O Ports

0 − + 00
Update Port Value

Memory

0 − + 00
Update Memory

Load me at

```
1  LXI H, 2506H   ;
2  LXI D, 1504H   ;
3  MOV A, L       ;
4  SUB E          ;
5  MOV L, A       ;
6  MOV A, H       ;
7  SBB D          ;
8  MOV H, A       ;
9  HLT            ;
```

Data | Stack | KeyPad | Memory | I/O Ports

Address	Variable	Value	Value (Decimal)

Line No	Assembler Message
0	Program assembled successfully

Simulator: Idle

Load me at

```
1  LXI H, 0000H ;
2  LXI B, 1234H ;
3  LXI D, 5670H ;
4  MOV A, E ;
5  MOV L, A ;
6
7
8  l1: DAD B ;
9  DCR L ;
10 JNZ l1 ;
11 HLT ;
```

Data | Stack | KeyPad | Memory | I/O P

Address	Variable	Value	Value (Decimal)

Line No	Assembler Message
0	Program assembled successfully

```
XI H, 0000H  ;
XI B, 5464H  ;
LXI D, 4130H  ;
MOV A, B      ;
MOV L, C      ;

DIV_LOOP: CMP D        ;
          JC DIV_DONE   ;
          SUB D         ;
          INX H         ;
          JMP DIV_LOOP  ;

DIV_DONE: MOV C, A     ;
          HLT          ;
```

Data | Stack | KeyPad | Memor

Address	Variable	Value	Value (Decimal)

Line No	Assembler Message
0	Program assembled successfully

Simulator: Idle

Load me at

```
1  LXI H, 0000  ;
2  MVI B, 54H   ;
3  MVI C, 64H   ;
4  MOV A, B     ;
5  CMP C        ;
6  JC SECOND_IS_GREATER ;
7
8  FIRST_IS_GREATER: MOV H, B  ;
9                    JMP DONE  ;
10
11 SECOND_IS_GREATER: MOV H, C ;
12
13 DONE:  HLT ;
14
```

Address	Variable	Value	Value (Decimal)

Line No	Assembler Message
0	Program assembled successfully

Load me at

```
1  LXI H, 0000H   ;
2  MVI B, 67H ;
3  MVI C, 45H ;
4  MOV A, B ;
5  CMP C ;
6  JC FIRST_IS_SMALLER ;
7
8  SECOND_IS_SMALLER:  MOV H, C ;
9                      JMP DONE ;
10
11 FIRST_IS_SMALLER: MOV H, B ;
12
13 DONE: HLT ;
14
```

Data | Stack | KeyPad | Memory

Address	Variable	Value	Value (Decimal)

Line No	Assembler Message
0	Program assembled successfully

Idle

ad me at

```
1  LXI H, 8000H ;
2  MVI D, 05H   ;
3  SORT_LOOP: MOV C, D   ;
4
5  INNER_LOOP: MOV A, M ;
6          INX H    ;
7          CMP M     ;
0          JC NO_SWAP   ;
9          MOV L, M  ;
10         MOV M, A
11         DCX H
12         MOV M, L
13 NO_SWAP: DCR C          ;
14         JNZ INNER_LOOP  ;
15         DCR D           ;
16         JNZ SORT_LOOP   ;
17
18         HLT   ;
19
```

Data | Stack | KeyPad | Memory

Address	Variable	Value	Value (Decimal)

Line No	Assembler Message
0	Program assembled successfully

r: Idle

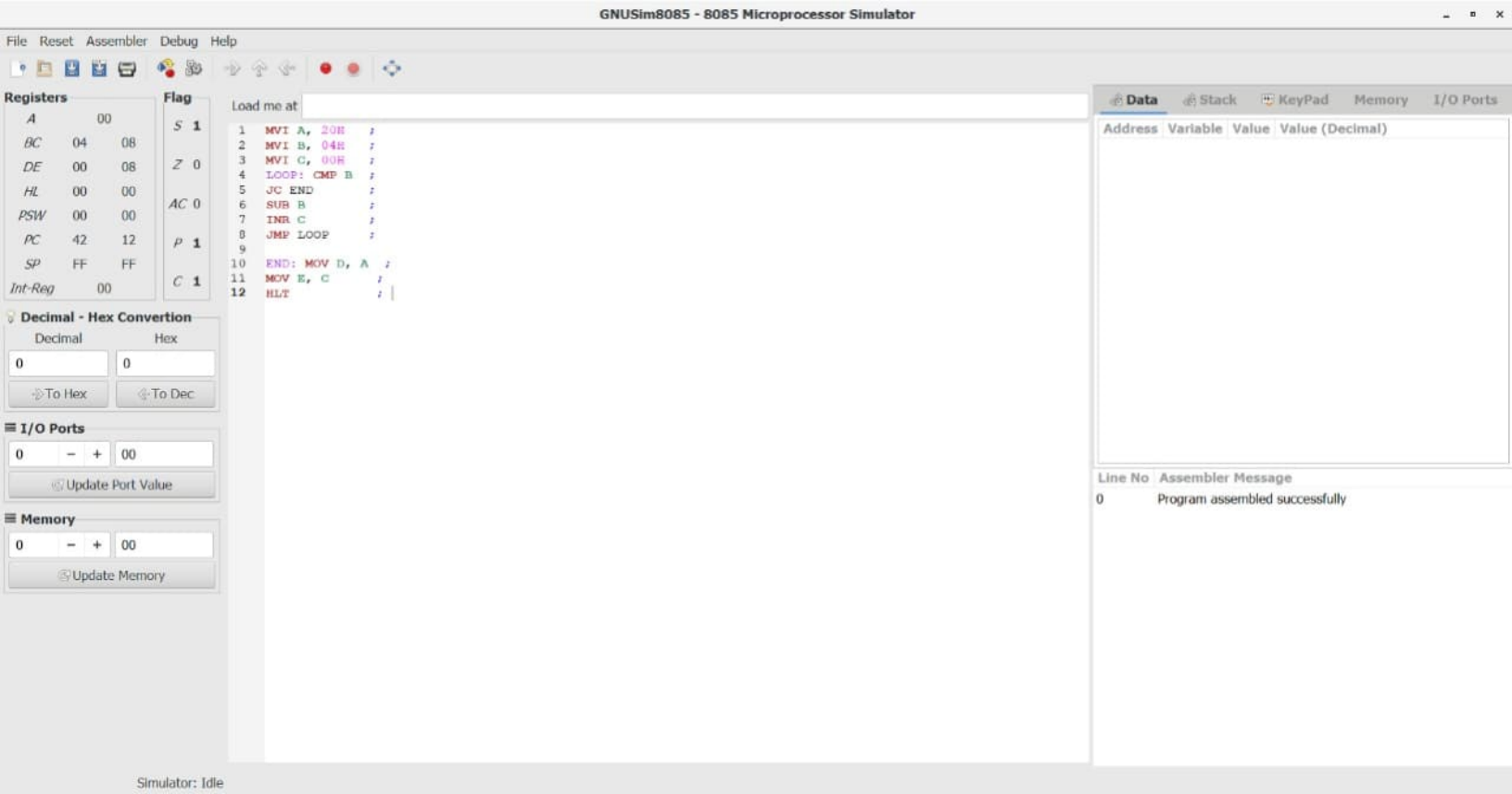
Load me at

```
LXI H, 4000H  ;
MVI D, 07H    ;
SORT_LOOP: MOV C, D    ;
INNER_LOOP: MOV A, M   ;
        INX H      ;
        CMP M    ;
        JNC NO_SWAP   ;
        MOV L, M    ;
        MOV M, A
        DCX H
        MOV M, L

NO_SWAP:  DCR C            ;
        JNZ INNER_LOOP   ;
        DCR D            ;
        JNZ SORT_LOOP    ;

        HLT ;
```

Data | Stack | KeyPad | Memory

Address	Variable	Value	Value (Decimal)

Line No	Assembler Message
0	Program assembled successfully


GNUSim8085 - 8085 Microprocessor Simulator
File Reset Assembler Debug Help
Registers
A 00
BC 04 08
DE 00 08
HL 00 00
PSW 00 00
PC 42 12
SP FF FF
Int-Reg 00
Flag
S 1
Z 0
AC 0
P 1
C 1
Decimal - Hex Convertion
Decimal
Hex
0
0
To Hex
To Dec
I/O Ports
0 − + 00
Update Port Value
Memory
0 − + 00
Update Memory
Load me at
1 MVI A, 20H ;
2 MVI B, 04H ;
3 MVI C, 00H ;
4 LOOP: CMP B ;
5 JC END ;
6 SUB B ;
7 INR C ;
8 JMP LOOP ;
9
10 END: MOV D, A ;
11 MOV E, C ;
12 HLT ;
Data
Stack
KeyPad
Memory
I/O Ports
Address Variable Value Value (Decimal)
Line No Assembler Message
0 Program assembled successfully
Simulator: Idle

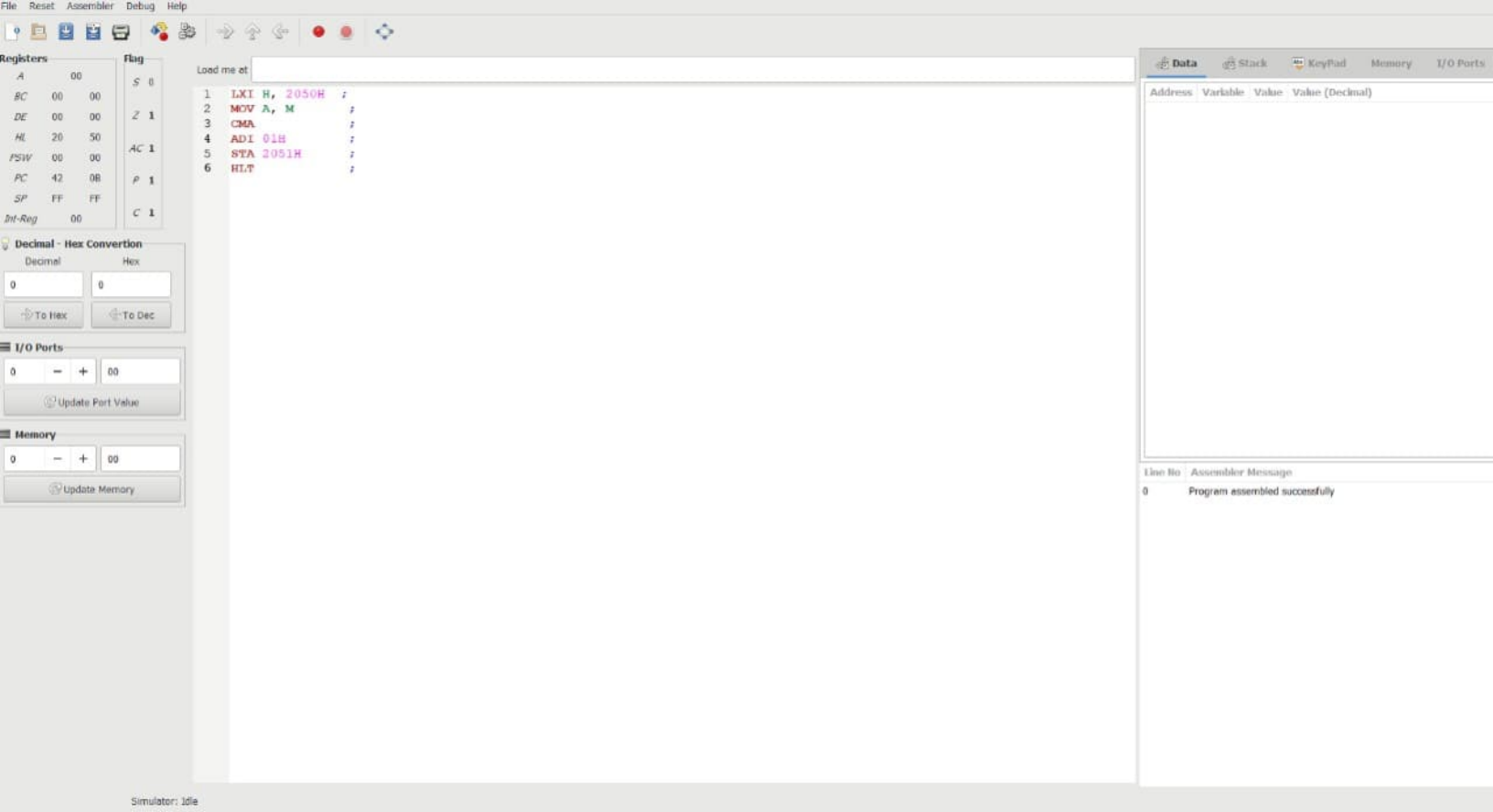
oad me at

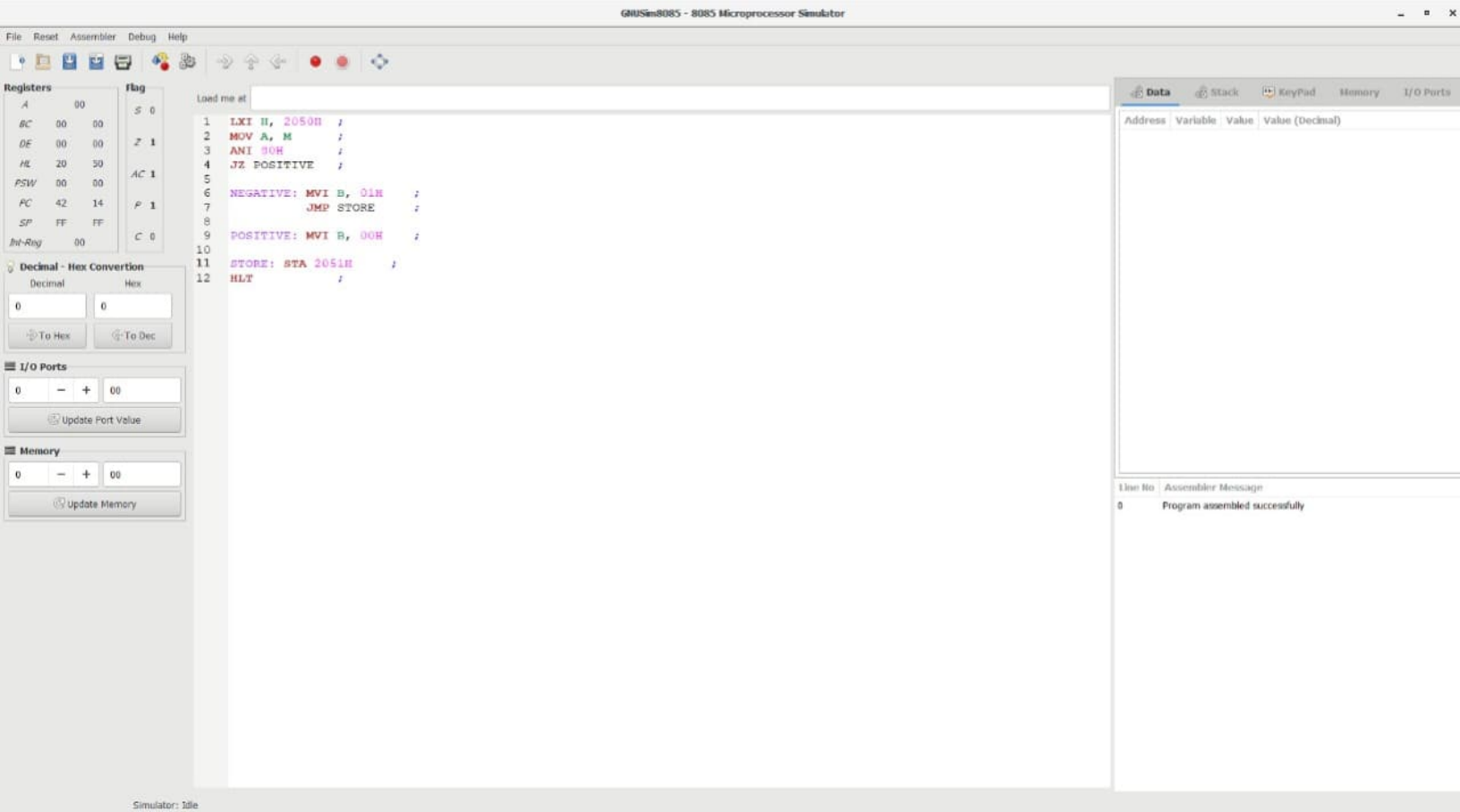
```
1   LXI H, 2050H    ;
2   MOV C, M        ;
3   DCR C           ;
4
5   LOOP1: MOV D, C    ;
6       LXI H, 2051H   ;
7
0   LOOP2: MOV A, M         ;
9       INX H           ;
0       CMP M           ;
1       JC NO_SWAP      ;
2
3
4       MOV B, M        ;
5       MOV M, A        ;
6       DCX H           ;
7       MOV M, B        ;
8       INX H           ;
9
20  NO_SWAP: DCR D          ;
1       JNZ LOOP2       ;
22
23      DCR C           ;
24      JNZ LOOP1       ;
25  HLT                 ;
```

Data | Stack | KeyPad | Memory | I/O

Address	Variable	Value	Value (Decimal)

Line No	Assembler Message
0	Program assembled successfully


File Reset Assembler Debug Help
Registers
A 00
BC 00 00
DE 00 00
HL 20 50
PSW 00 00
PC 42 0B
SP FF FF
Int-Reg 00
Flag
S 0
Z 1
AC 1
P 1
C 1
Decimal - Hex Convertion
Decimal
Hex
0
0
To Hex
To Dec
I/O Ports
0
00
Update Port Value
Memory
0
00
Update Memory
Load me at
1 LXI H, 2050H ;
2 MOV A, M ;
3 CMA ;
4 ADI 01H ;
5 STA 2051H ;
6 HLT ;
Data
Stack
KeyPad
Memory
I/O Ports
Address Variable Value Value (Decimal)
Line No Assembler Message
0 Program assembled successfully
Simulator: Idle


GNUSim8085 - 8085 Microprocessor Simulator
File Reset Assembler Debug Help
Registers
Flag
A 00
BC 00 00
DE 00 00
HL 20 50
PSW 00 00
PC 42 14
SP FF FF
Int-Reg 00
S 0
Z 1
AC 1
P 1
C 0
Decimal - Hex Convertion
Decimal
Hex
0
0
To Hex
To Dec
I/O Ports
0
00
Update Port Value
Memory
0
00
Update Memory
Load me at
1 LXI H, 2050H ;
2 MOV A, M ;
3 ANI 80H ;
4 JZ POSITIVE ;
5
6 NEGATIVE: MVI B, 01H ;
7 JMP STORE ;
8
9 POSITIVE: MVI B, 00H ;
10
11 STORE: STA 2051H ;
12 HLT ;
Data
Stack
KeyPad
Memory
I/O Ports
Address Variable Value Value (Decimal)
Line No Assembler Message
0 Program assembled successfully
Simulator: Idle

File Reset Assembler Debug Help

Registers

A	00	
BC	00	00
DE	00	00
HL	00	00
PSW	00	00
PC	00	00
SP	00	00
Int-Reg	00	

Flag

S 0
Z 0
AC 0
P 0
C 0

Decimal - Hex Convertion

Decimal	Hex
0	0
To Hex	To Dec

I/O Ports

0 − + 0

Update Port Value

Memory

0 − + 0

Update Memory

Load me at

```
1  LXI H, 2050H
2  MOV B, M
3  INX H
4  MOV C, M
5
6  MOV D, B
7  MOV E, C
8
9  CALL FIND_MAX
10
11 LCM_LOOP: MOV D, A
12 MOV E, B
13 CALL DIVISION
14 CPI 00H
15 JNZ NEXT_NUM
16
17 MOV E, C
18 CALL DIVISION
19 CPI 00H
20 JNZ NEXT_NUM
21
22 JMP STORE_LCM
23
24 NEXT_NUM: INR A
25 JMP LCM_LOOP
26
27 STORE_LCM: STA 2052H
28 HLT
29
30 FIND_MAX: MOV A, B
31 CMP C
32 JNC RETURN
33 MOV A, C
34 RETURN: RET
35
36 DIVISION: MOV H, D
37 MVI L, 00H
38 DIV_LOOP: CMP E
39 JC DIV_DONE
40 SUB E
41 JMP DIV_LOOP
42
43 DIV_DONE: RET
```

Data | Stack | KeyPad | Memory | I/O Ports

Address	Variable	Value	Value (Decimal)

Line No	Assembler Message
0	Program assembled successfully

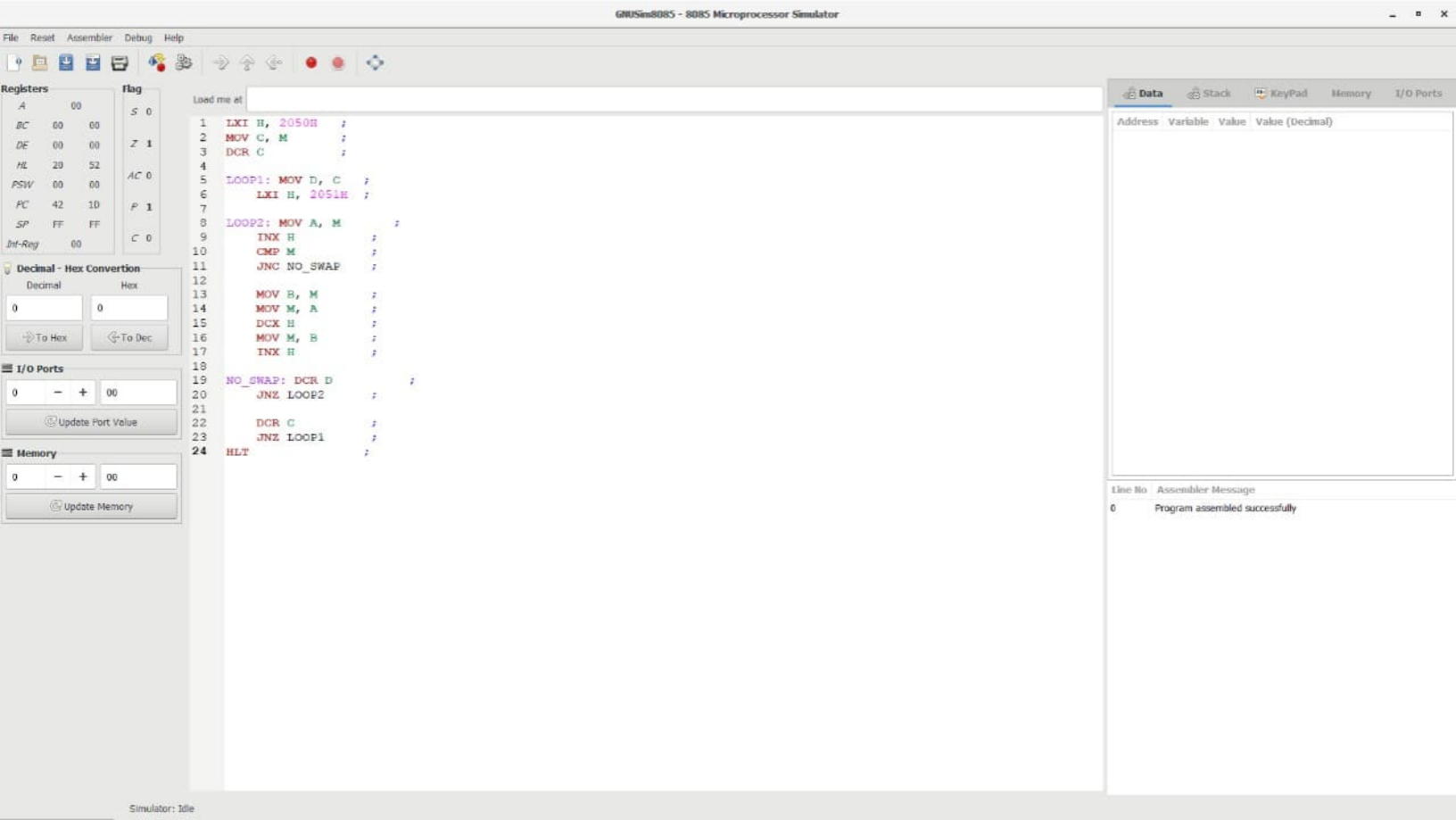
Load me at

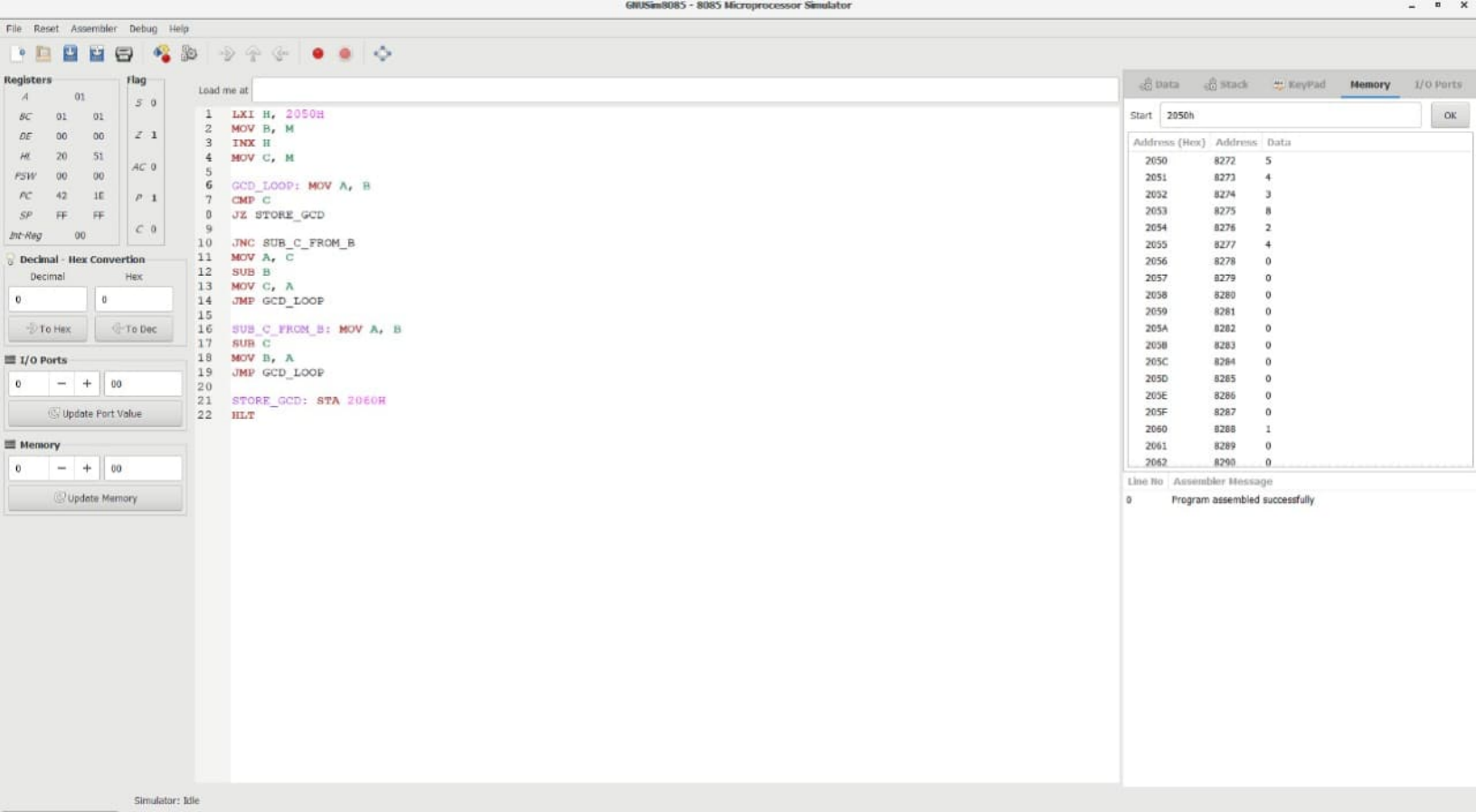
```
1   LXI H, 2050H  ;
2   MOV A, M      ;
3   ANI 01H       ;
4   JZ EVEN       ;
5   MVI B, 01H    ;
6   JMP STORE     ;
7
8   EVEN: MVI B, 00H    ;
9
10  STORE: STA 2051H    ;
11  HLT           ;
```

Data | Stack | KeyPad | Memory | I/O Ports

Address	Variable	Value	Value (Decimal)

Line No	Assembler Message
0	Program assembled successfully


GNUSim8085 - 8085 Microprocessor Simulator
File Reset Assembler Debug Help
Registers
A 00
BC 00 00
DE 00 00
HL 20 52
PSW 00 00
PC 42 1D
SP FF FF
Int-Reg 00
Flag
S 0
Z 1
AC 0
P 1
C 0
Decimal - Hex Convertion
Decimal
Hex
0
0
To Hex
To Dec
I/O Ports
0 − + 00
Update Port Value
Memory
0 − + 00
Update Memory
Load me at
1 LXI H, 2050H ;
2 MOV C, M ;
3 DCR C ;
4
5 LOOP1: MOV D, C ;
6 LXI H, 2051H ;
7
8 LOOP2: MOV A, M ;
9 INX H ;
10 CMP M ;
11 JNC NO_SWAP ;
12
13 MOV B, M ;
14 MOV M, A ;
15 DCX H ;
16 MOV M, B ;
17 INX H ;
18
19 NO_SWAP: DCR D ;
20 JNZ LOOP2 ;
21
22 DCR C ;
23 JNZ LOOP1 ;
24 HLT ;
Data
Stack
KeyPad
Memory
I/O Ports
Address Variable Value Value (Decimal)
Line No Assembler Message
0 Program assembled successfully
Simulator: Idle


GNUSim8085 - 8085 Microprocessor Simulator
File
Reset
Assembler
Debug
Help
Registers
Flag
A 01
BC 01 01
DE 00 00
HL 20 51
PSW 00 00
PC 42 1E
SP FF FF
Int-Reg 00
S 0
Z 1
AC 0
P 1
C 0
Decimal - Hex Convertion
Decimal
Hex
0
0
To Hex
To Dec
I/O Ports
0
00
Update Port Value
Memory
0
00
Update Memory
Load me at
1 LXI H, 2050H
2 MOV B, M
3 INX H
4 MOV C, M
5
6 GCD_LOOP: MOV A, B
7 CMP C
0 JZ STORE_GCD
9
10 JNC SUB_C_FROM_B
11 MOV A, C
12 SUB B
13 MOV C, A
14 JMP GCD_LOOP
15
16 SUB_C_FROM_B: MOV A, B
17 SUB C
18 MOV B, A
19 JMP GCD_LOOP
20
21 STORE_GCD: STA 2060H
22 HLT
Data
Stack
KeyPad
Memory
I/O Ports
Start
2050h
OK
Address (Hex) Address Data
2050 8272 5
2051 8273 4
2052 8274 3
2053 8275 8
2054 8276 2
2055 8277 4
2056 8278 0
2057 8279 0
2058 8280 0
2059 8281 0
205A 8282 0
205B 8283 0
205C 8284 0
205D 8285 0
205E 8286 0
205F 8287 0
2060 8288 1
2061 8289 0
2062 8290 0
Line No Assembler Message
0 Program assembled successfully
Simulator: Idle

me at

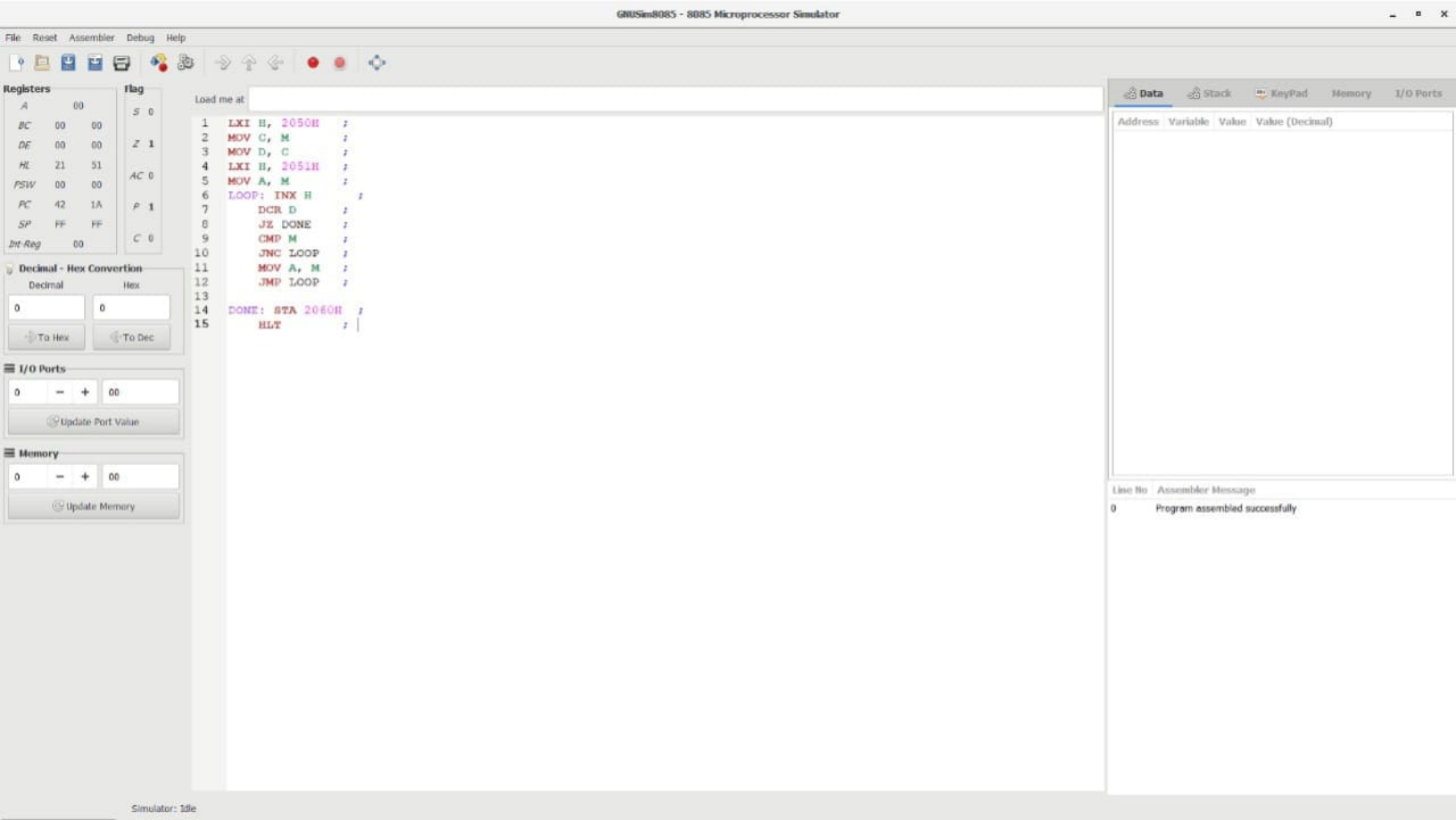
```
LXI H, 2050H
MOV A, M
MVI B, 10H
CALL DIVIDE
STA 2051H
MOV A, L
STA 2052H
HLT

DIVIDE: MVI L, 00H
DIV_LOOP: CMP B
    JC DONE
    SUB B
    INR L
    JMP DIV_LOOP

DONE: MOV H, A
    RET
```

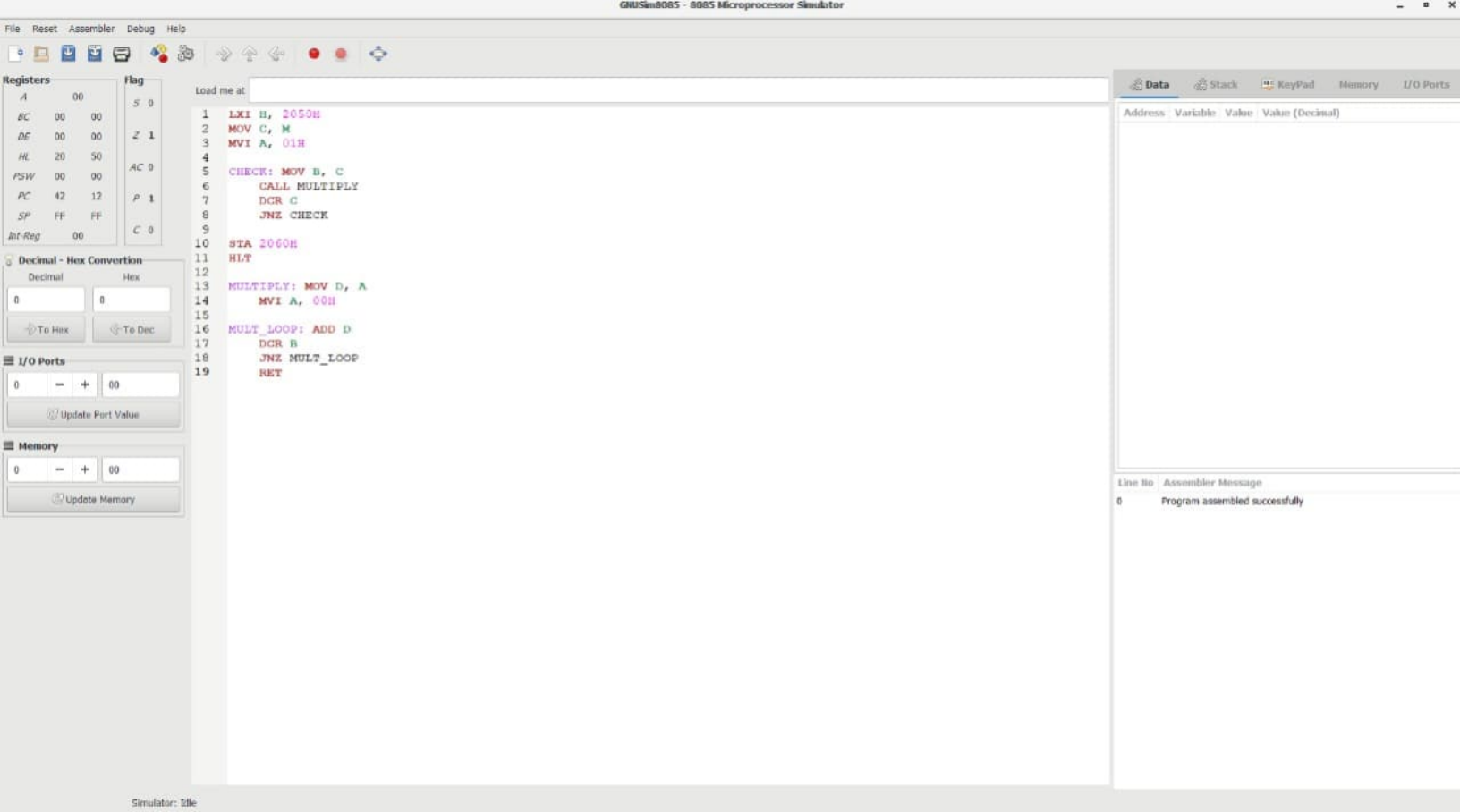
Data | Stack | KeyPad | Memory

Start 2050h

Address (Hex)	Address	Data
2051	8273	13
2052	8274	2
2053	8275	78
2054	8276	0
2055	8277	0
2056	8278	0
2057	8279	0
2058	8280	0
2059	8281	0
205A	8282	0
205B	8283	0
205C	8284	0
205D	8285	0
205E	8286	0
205F	8287	0
2060	8288	0
2061	8289	0
2062	8290	0

Line No	Assembler Message
0	Program assembled successfully


GNUSim8085 - 8085 Microprocessor Simulator
File
Reset
Assembler
Debug
Help
Registers
A 00
BC 00 00
DE 00 00
HL 21 51
PSW 00 00
PC 42 1A
SP FF FF
Int-Reg 00
Flag
S 0
Z 1
AC 0
P 1
C 0
Decimal - Hex Convertion
Decimal
Hex
0
0
To Hex
To Dec
I/O Ports
0
00
Update Port Value
Memory
0
00
Update Memory
Load me at
1 LXI H, 2050H ;
2 MOV C, M ;
3 MOV D, C ;
4 LXI H, 2051H ;
5 MOV A, M ;
6 LOOP: INX H ;
7 DCR D ;
8 JZ DONE ;
9 CMP M ;
10 JNC LOOP ;
11 MOV A, M ;
12 JMP LOOP ;
13
14 DONE: STA 2060H ;
15 HLT ;
Data
Stack
KeyPad
Memory
I/O Ports
Address
Variable
Value
Value (Decimal)
Line No
Assembler Message
0
Program assembled successfully
Simulator: Idle


GNUSim8085 - 8085 Microprocessor Simulator
File Reset Assembler Debug Help
Registers
A 00
BC 00 00
DE 00 00
HL 20 50
PSW 00 00
PC 42 12
SP FF FF
Int-Reg 00
Flag
S 0
Z 1
AC 0
P 1
C 0
Decimal - Hex Convertion
Decimal
Hex
0
0
To Hex
To Dec
I/O Ports
0
00
Update Port Value
Memory
0
00
Update Memory
Load me at
1 LXI H, 2050H
2 MOV C, M
3 MVI A, 01H
4
5 CHECK: MOV B, C
6 CALL MULTIPLY
7 DCR C
8 JNZ CHECK
9
10 STA 2060H
11 HLT
12
13 MULTIPLY: MOV D, A
14 MVI A, 00H
15
16 MULT_LOOP: ADD D
17 DCR B
18 JNZ MULT_LOOP
19 RET
Data
Stack
KeyPad
Memory
I/O Ports
Address Variable Value Value (Decimal)
Line No Assembler Message
0 Program assembled successfully
Simulator: Idle

GNUSim8085 - 8085 Microprocessor Simulator

File Reset Assembler Debug Help

Registers

A	02	
BC	10	00
DE	00	00
HL	0D	02
PSW	00	00
PC	42	11
SP	FF	FF
Int-Reg	00	

Flag

S 1
Z 0
AC 0
P 0
C 1

Decimal - Hex Convertion

Decimal: 45 — To Hex

Hex: 2D — To Dec

I/O Ports

0 − + 00

Update Port Value

Memory

0 − + 00

Update Memory

Load me at

```
1  LXI H, 2050H
2  MOV A, M
3  MVI B, 10H
4  CALL DIVIDE
5  STA 2051H
6  MOV A, L
7  STA 2052H
8  HLT
9
10 DIVIDE: MVI L, 00H
11 DIV_LOOP: CMP B
12     JC DONE
13     SUB B
14     INR L
15     JMP DIV_LOOP
16
17 DONE: MOV H, A
18     RET
```

Data | Stack | KeyPad | **Memory** | I/O Ports

Start: 2050h — OK

Address (Hex)	Address	Data
2051	8273	13
2052	8274	2
2053	8275	78
2054	8276	0
2055	8277	0
2056	8278	0
2057	8279	0
2058	8280	0
2059	8281	0
205A	8282	0
205B	8283	0
205C	8284	0

Line No	Assembler Message
0	Program assembled successfully

Simulator: Idle