

Lab 04

SUB: CSA

**NAME : JARIWALA SAHIL
YOGESHKUMAR**

ROLL NO: CE049

A string of six data bytes is stored starting from 2050H. The string includes some blanks. Write a program to eliminate the blanks from the string.

PROGRAM:

```
MVI D, 06H
LXI H, 2050H
LXI B, 2050H
L2: MOV A, M
CPI 00H
JZ L1
STAX B
INX B
L1: INX H
DCR D
JNZ L2
HLT
```

OUTPUT:

Before execution

The screenshot displays an 8085 assembly simulator interface. On the left, the 'Registers' window shows the state of various registers: A (A3), BC (20 54), DE (00 00), HL (20 56), PSW (00 00), PC (42 1A), SP (FF FF), and Int-Reg (00). The 'Flag' window shows S (0), Z (1), AC (0), P (1), and C (0). Below these is a 'Decimal - Hex Conversion' tool with '8272' in the decimal field and '2050' in the hex field. The 'I/O Ports' window shows a value of '0' and an 'Update Port Value' button. The main window displays the assembly code with line numbers 1 through 22. The code starts with a title, jumps to 'start', and then enters a loop to process a string of six bytes starting at 2050H, skipping zero bytes. The 'Memory' window on the right shows a table of memory addresses (2050 to 205A) and their corresponding data values (16, 0, 12, 0, 123, 163, 0, 0, 0, 0). The 'Assembler Message' window at the bottom shows the message 'Program assembled successfully'.

Address (Hex)	Address	Data
2050	8272	16
2051	8273	0
2052	8274	12
2053	8275	0
2054	8276	123
2055	8277	163
2056	8278	0
2057	8279	0
2058	8280	0
2059	8281	0
205A	8282	0

Line No	Assembler Message
0	Program assembled successfully

After Execution

Registers

A	A3
BC	20 54
DE	00 00
HL	20 56
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 Conversion

Decimal	Hex
8272	2050

I/O Ports

0	-	+	00
---	---	---	----

Assembly Code

```

1
2 ;<Program title>
3
4 jmp start
5
6 ;data
7
8
9 ;code
10 start: nop
11 MVI D, 06H
12 LXI H, 2050H
13 LXI B, 2050H
14 L2: MOV A, M
15 CPI 00H
16 JZ L1
17 STAX B
18 INX B
19 L1: INX H
20 DCR D
21 JNZ L2
22 HLT
  
```

Memory

Address (Hex)	Address	Data
2050	8272	16
2051	8273	12
2052	8274	123
2053	8275	163
2054	8276	123
2055	8277	163
2056	8278	0
2057	8279	0
2058	8280	0
2059	8281	0
205A	8282	0

Assembler Message

Line No	Assembler Message
0	Program assembled successfully

A system is designed to monitor the temperature of a furnace. Temperature readings are recorded in 16 bits and stored in memory locations starting at 2060H. The higher order byte is stored first and the lower order byte is stored the next consecutive memory location. The high order byte of all the temperature reading is constant. Write a program to transfer low order readings to consecutive memory locations starting at address 2080H and discard the high order bytes.

PROGRAM:

```

MVI D, 05H
LXI H, 2060H
LXI B, 2080H
INX H
L2: MOV A, M
STAX B
INX B
INX H
INX H
DCR D
  
```

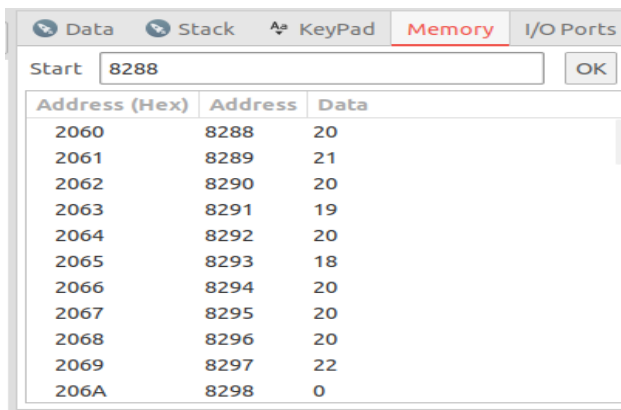
JNZ L2

HLT

OUTPUT:

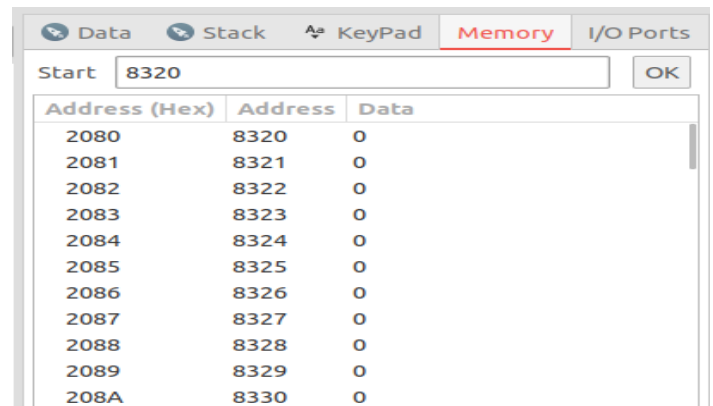
ASSUMING THAT WE HAVE FIVE TEMP READINGS.

Before execution



Start: 8288 OK

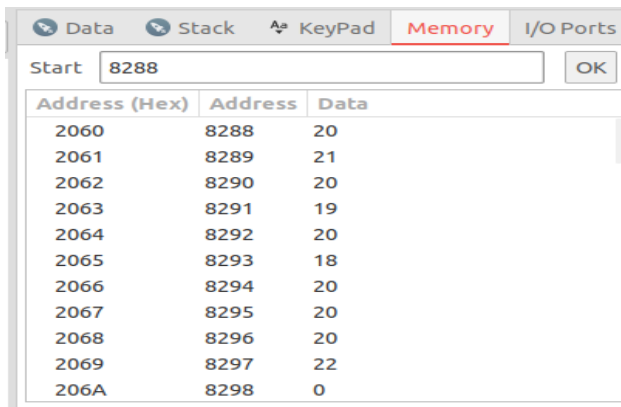
Address (Hex)	Address	Data
2060	8288	20
2061	8289	21
2062	8290	20
2063	8291	19
2064	8292	20
2065	8293	18
2066	8294	20
2067	8295	20
2068	8296	20
2069	8297	22
206A	8298	0



Start: 8320 OK

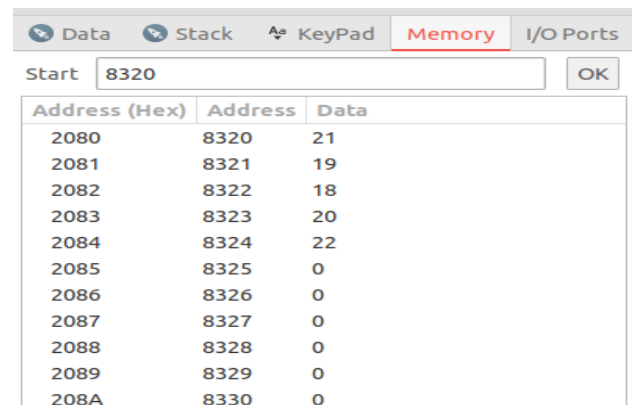
Address (Hex)	Address	Data
2080	8320	0
2081	8321	0
2082	8322	0
2083	8323	0
2084	8324	0
2085	8325	0
2086	8326	0
2087	8327	0
2088	8328	0
2089	8329	0
208A	8330	0

After Execution



Start: 8288 OK

Address (Hex)	Address	Data
2060	8288	20
2061	8289	21
2062	8290	20
2063	8291	19
2064	8292	20
2065	8293	18
2066	8294	20
2067	8295	20
2068	8296	20
2069	8297	22
206A	8298	0



Start: 8320 OK

Address (Hex)	Address	Data
2080	8320	21
2081	8321	19
2082	8322	18
2083	8323	20
2084	8324	22
2085	8325	0
2086	8326	0
2087	8327	0
2088	8328	0
2089	8329	0
208A	8330	0