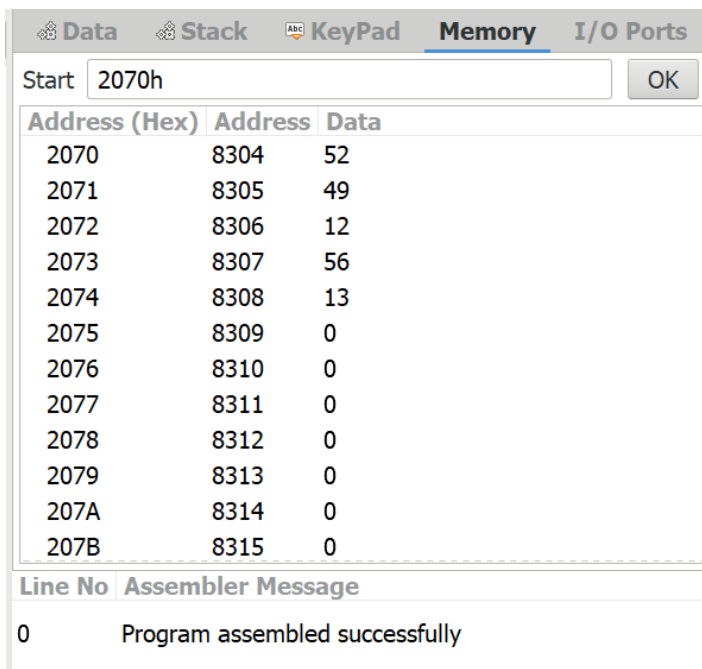# MIT ASSIGNMENT – 7

1. **A string of readings is stored in memory, locations starting at 2070H, and the end of the string is indicated by the byte 0DH.Write a program to check each byte in the string, and the save the bytes in the range of 30H to 39H (both inclusive) in memory locations starting from 2090H.**

;Program 1
lxi h,2070H
lxi d,2090H
next: mov a,m
inx H
cpi 0DH
jz END
cpi 030H
jc next
cpi 039H
jnc next
stax D
inx D
jmp next
END: hlt

Data	Stack	KeyPad	Memory	I/O Ports

Start 2070h   OK

Address (Hex)	Address	Data
2070	8304	52
2071	8305	49
2072	8306	12
2073	8307	56
2074	8308	13
2075	8309	0
2076	8310	0
2077	8311	0
2078	8312	0
2079	8313	0
207A	8314	0
207B	8315	0

Line No	Assembler Message
0	Program assembled successfully

Output:-

2. **A set of ten bytes is stored in memory starting with the address 2050H.Write a program to check each byte , and save the bytes that are higher than 60_{10} and lower than 100_{10} in memory locations starting from 2060H.**

;Program2
lxi h,2050h
mvi c,0Ah
lxi d,2060h
loop: mov a,m
cpi 3Ch
jc next
cpi 64h
jnc next
stax d
inx d
next: inx h
dcr c
jz end
jmp loop
end: hlt

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

Start [2050h]   [OK]

Address (Hex)	Address	Data
2050	8272	67
2051	8273	1
2052	8274	87
2053	8275	90
2054	8276	2
2055	8277	100
2056	8278	73
2057	8279	31
2058	8280	59
2059	8281	99
205A	8282	0
205B	8283	0

Line No	Assembler Message
0	Program assembled successfully

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

Start [2060h]   [OK]

Address (Hex)	Address	Data
2060	8288	67
2061	8289	87
2062	8290	90
2063	8291	73
2064	8292	99
2065	8293	0
2066	8294	0
2067	8295	0
2068	8296	0
2069	8297	0
206A	8298	0
206B	8299	0

Line No	Assembler Message
0	Program assembled successfully

3. **Data bytes are stored in memory locations from 2050H to 205FH.To insert an additional five bytes of data, It is necessary to shift the data string by five memory locations. Write a program to store the data string from 2055H to 2064H.Use any sixteen bytes of data to verify your program.**

;Program 3
lxi h,205FH
lxi d,2064H
mvi b,16H

loop: mov a,m
stax d
dcx h
dcx d

```
dcr b
jnz loop

lxi h,2050h
mvi c,05h
mvi b,01h
addNo: mov m,b
inx h
inr b
dcr c
jnz addNo
hlt
```

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

Start 2050h `OK`

Address (Hex)	Address	Data
2050	8272	6
2051	8273	7
2052	8274	8
2053	8275	9
2054	8276	10
2055	8277	1
2056	8278	90
2057	8279	44
2058	8280	4
2059	8281	98
205A	8282	6
205B	8283	7

Line No **Assembler Message**

0   Program assembled successfully

Shifted array with new data:-

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

Start 2050h `OK`

Address (Hex)	Address	Data
2050	8272	1
2051	8273	2
2052	8274	3
2053	8275	4
2054	8276	5
2055	8277	6
2056	8278	7
2057	8279	8
2058	8280	9
2059	8281	10
205A	8282	1
205B	8283	90

Line No **Assembler Message**

0   Program assembled successfully