U19CS076 MIT ASSIGNMENT 7

KRITHIKHA BALAMURUGAN

Q1. 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.

```
LXI H,2070H          ;input array

LXI D,2090H          ;destination array

MVI C,0DH            ;breakpoint

loop: MOV A,M

CMP C

JZ END        ;if data=0Dh =13 dec

INX H

CPI 2FH

JZ loop

JC loop

CPI 3AH

JNC loop

STAX D

INX D

JMP loop

END: HLT
```

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

Start 2070h   OK

Address (Hex)	Address	Data
2070	8304	4
2071	8305	3
2072	8306	49
2073	8307	48
2074	8308	51
2075	8309	13
2076	8310	0
2077	8311	0

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

Start 2090h   OK

Address (Hex)	Address	Data
2090	8336	49
2091	8337	48
2092	8338	51
2093	8339	0
2094	8340	0

Registers

			Flag	
A		0D	S	0
BC	00	0D		
DE	20	93	Z	1
HL	20	75		
PSW	00	00	AC	0
PC	42	21	P	1
SP	FF	FF		
Int-Reg		00	C	0

```
lxi h,2050h

lxi d,2060h

mvi b,10h        ;count of 10

mvi a,00h

loop: mov a,m

mvi c,3ch        ;3c hex=60 dec

cmp c

jc skip          ;skip if  num<60

mov a,m

mvi c,64h        ;64 hex=100 dec

cmp c

jnc skip         ;skip if num>100

mov a,m

stax d

skip: inx h

inx d

dcr b

jnz loop

hlt
```

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

Start | 2050h | OK

Address (Hex)	Address	Data
2050	8272	44
2051	8273	77
2052	8274	88
2053	8275	87
2054	8276	56
2055	8277	77
2056	8278	76
2057	8279	66
2058	8280	56
2059	8281	76
205A	8282	5
205B	8283	0

⚙ Data	⚙ Stack	[Abc] KeyPad	Memor	Flag

Start 2060h

Address (Hex)	Address	Data		S 0
2060	8288	0		
2061	8289	77		
2062	8290	88		Z 1
2063	8291	87		
2064	8292	0		
2065	8293	77		AC 0
2066	8294	76		
2067	8295	66		P 1
2068	8296	0		
2069	8297	76		
206A	8298	0		C 1
206B	8299	0		

Q3. 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.

lxi h,205fh

lxi d,2064h

mvi b,16h

```
loop: mov a,m

stax d

dcx h

dcx d

dcr b

jnz loop

hlt
```

INPUT STORED FROM 2050H TO 205FH

Address (Hex)	Address	Data
2050	8272	12
2051	8273	121
2052	8274	2
2053	8275	3
2054	8276	4
2055	8277	2
2056	8278	0
2057	8279	4
2058	8280	23
2059	8281	6
205A	8282	55
205B	8283	8
205C	8284	34
205D	8285	3
205E	8286	0
205F	8287	55
2060	8288	0

AFTER EXECUTION

Address (Hex)	Address	Data
2050	8272	0
2051	8273	0
2052	8274	0
2053	8275	0
2054	8276	0
2055	8277	12
2056	8278	121
2057	8279	2
2058	8280	3
2059	8281	4
205A	8282	2
205B	8283	0
205C	8284	4
205D	8285	23
205E	8286	6
205F	8287	55
2060	8288	8
2061	8289	34
2062	8290	3
2063	8291	0
2064	8292	55
2065	8293	0
2066	8294	0
2067	8295	0

Start 2050h

Data Stack KeyPad Memory

Flag

S 0

Z 1

AC 0

P 1

C 0