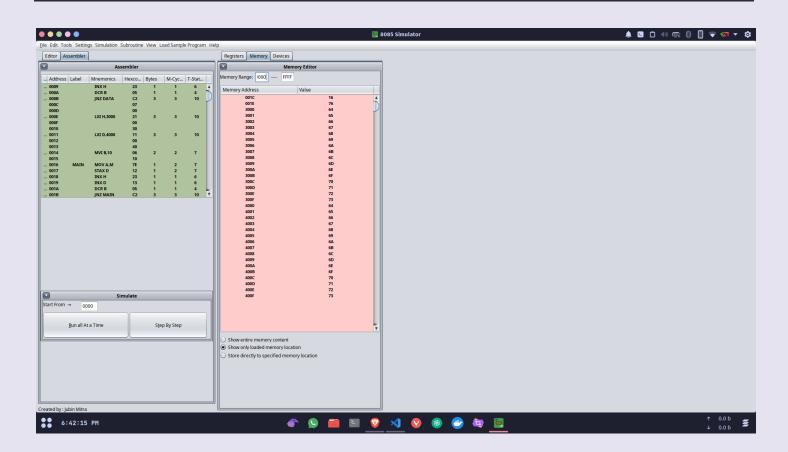
<u>Aim</u>: Learning Techniques on Block Transfer of Data.

Exercise:

1. Write a program to transfer a block of data from 3000H to 4000H. The size of block is 16 bytes.

```
MVI B, 10H
MVI C,64H
LXI H,3000H
DATA:
MOV M,C
INR C
INX H
DCR B
JNZ DATA
LXI H,3000H
LXI D,4000H
MVI B, 10H
MAIN:
MOV A,M
STAX D
INX H
INX D
DCR B
JNZ MAIN
```

HLT



\ \	OM BOAR PAGE NO. CATE
	Commercial states of the control of
	Yash Lakhtariya
En.no	2162101012
Branch	CBA Batch - SI
Subject	M& A Practical 4
61	(8. cos; 11.12) = 1 and 6
Code	MVI B, 10H // Load: 10H in reg. B (counter)
	MUI C, 64H /1 Load 64H in reg. C (dater)
10	LXI H, 3000H // Loud 3000 W in CH, L power Cotant adder)
1-	
	DATA: 11 Loading data in miam. From 3000 H
المعرف	MOV M C 11 Kopy contents of C in mamaey 3000H
	INR C 11: Increment data
	INX H // Increment address
	DCR B // Decrement country
Ec!	JNZ PATA Il Repeat loop till coupter is zero
4	
<u> </u>	LXI H, 3000H / Again load address, in H, Lipour
LVI	LXI P, 4000H 11 Load addit to copy in DE pair
	MVI B, 104 /1 Logs Set counter
	CD CD
To r	MAIN: 30 31 . IVA
	MOV A, M // Coad data from memory to A
	STAX I II (opy From A to mem pointed by le
	2NX H / Increment final addy.
	INX 1 I Increment second adds
	DCR B // Decroment counter
1	((((((((((((((((((((
1	HLT // End) excecution
	11 THE VICTOR

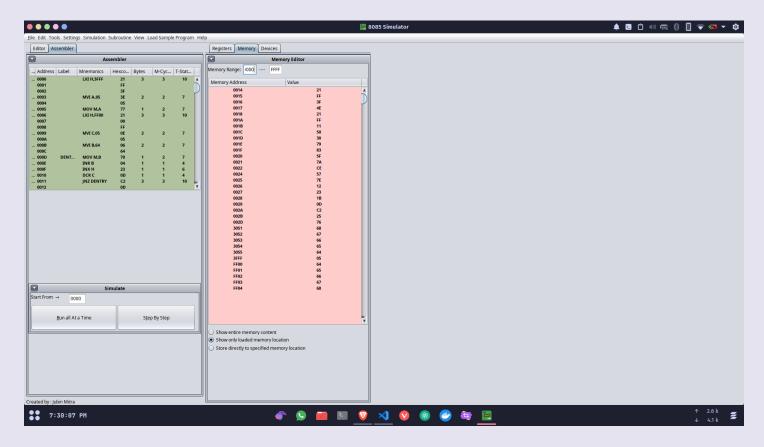
		SE NO.
adhas	label Macronics : Hex Bytes M-cycles	T-state
0000	MV1 5,10 06 2 2	7.
0001	10	
2000	MUICK4 DE 2 2	7
0003	64	
0004	LX1 H, 3000 21 3 3	10
0005		
0006	30.	4.4
0007	DATA . MOV. M, C . 71 . 1 2.	7
2008	11/R C OC 1 1	4
0009		.: 6
Dood	DCRB . Og	4
0008	TN2 DATA CZ 3 3	10
0000	07	
2001	D O	
3000	· EXI 43000 21 . 3 3	. 10
000F	20	
0010	30.11	~_ 1
1100	LXI 0,4000 . 11 3	10
0012	. 30 .	
0013	40	1
0014	MV1 810 06 2 . 2	- 10 T
0019	10 20	• 4
0016	MPTN MOVEM IF 1 2	- 7
0017	STAX D 12 - 1 2	1
odis	INX H 23 1	7 6
0019	10×0 13-1 1	. 6
0018	DCR B. 35 1	4
9100	INZMAIN CZ 3	10
2100	- 16	And the state of
0100	00	
ODIE	HLT 76 (2	(

```
Name - Yash Lakhtariya
Enrollment number - 21162101012
Branch - CBA Batch - 51
M&A Practical 4
```

2. Write a program to reverse a string stored in memory starting from FF00H. The length of the string is given in memory location 3FFF H. Store the reversed string at location 3050H.

```
// LOAD DATA FOR TASK
       LXI H,3FFF
       MVI A,05
       MOV M,A
       LXI H, FF00
       MVI C,05
       MVI B,64
DENTRY: MOV M,B
       INR B
       INX H
       DCR C
       JNZ DENTRY
// REVERSE
       LXI H,3FFF
       MOV C,M
       LXI H, FF00
       LXI D,3050
       MOV A,C
       ADD E
       MOV E,A
       MOV A,D
       ACI 00
       MOV D,A
STORE:
        MOV A,M
       STAX D
```

INX H
DCX D
DCR C
JNZ STORE
HLT



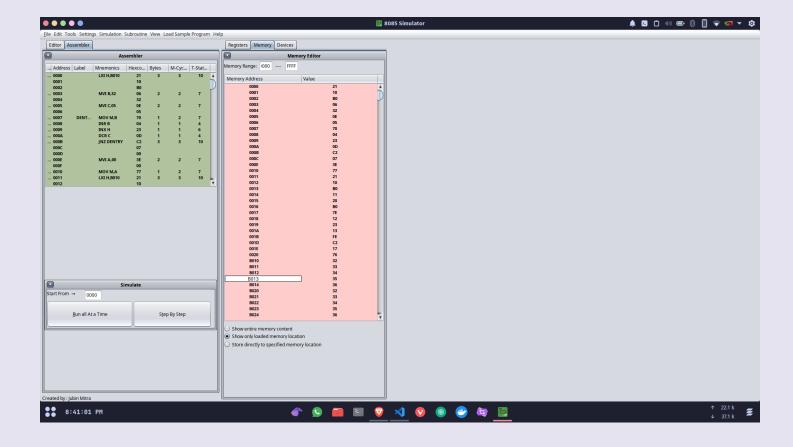
A Comment	
Total	FAGE NO.
	CAIE
file.	and the state of t
code	1/ Load Data Bird
	LXI H, 3FFF H 11. addy. to store length of data
1000000	MUI A, OSH I setting some longth in A
	MOV M, A Il copy longth from A to MOFFA
	LAI H, FFOOH // load stort addr. in H L pair
	MVI C, 05 H 1/ get counter / length
	MVIB, 64 M 11 load data in B reag
19	
Total	DENTRY:
	Copy thom ereg. B to MCFFOOHY.
N.	110101040
	TO THE MAN AND THE
	END 05-1500 1/1
	The period 11 repeat till counter is zero
	N Reverse and store
	LX) H 2 FFOH 1/ load length add. is 11 1 and
	MOV CM / load length from M to C.
1	IXI H Frook Il load start wider in HI no
	LXI P, 3050H 11 load second adde in DE par.
	MOV A, C I load length terom (to A
	ADD E 11 add lower byte of P, E paris
	MOV E, A 11 updata lower byte of P, E.
	MOVA, O Il load reper byte of P, E in A.
	MOV P.A Il replate reper byte of DE
1021	
	MOV A, M // load from H, L pointer to A.
	MOV A, M / load from H, L pointer to A. STAX D // store in P, E pair
3	JNXIH // increment adder-1
No.	OCX D // dermoment addr 2
	DI D C / degreed counter
	TNZ STORE // mepeal till counter is zero

TO THE STATE OF TH					_
+ddross	label momonics	Hex	Bytes	PAGE NO. QATE 11-cycles	
0000	LX1 H, 3FFF	21	3	3	10
1000	1×1 4,3866	FF	, .		
2000	and the second second	.3P	A Dia	The state of	
0003	. MY18,05	36	2	2.	7
0004	WAID.	05	ty see	1, 1, 1, 2	-
0005	MOV. M. A	7 7		2	7
8006	LXI H, FF00	21	2	3 ;	70
0007	S. M. Caballania	.00	1	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	
0008		FE			and the second second second
0000	Mu) CDS	OF	2	2	2
BODA .		05	4.		
0008	MU1-8, 65	oG.	. 2	2	7
booc	, , , , , , , , , , , , , , , , , , , ,	6,5		1.02	
0000	DENTRY MOV M, B	70	1	2	7
DOOE	INRB	04	, ,		4
7880	INXM	23	1		6
0010	PCR C	00	. (4
8011	IN Z OENTRY	.cz.	2	3.	10
0012		00			
6013		00	100		
0014	LXI H. 3FFF-	721	3	3	10
0015		FF.	,		
0016	in the state of th	3F:	** "n ", = =	7 037:1	
0037	MOVCM:	4F	1-1	. , 2 . , 1	7
0013	LXI A FFOO	21	3	3 :	10
0019		00.	in .	21 - 1	
RIGG	A. 1	tt.	o e		
0018	and the second of the second o	77	3	3	10
0016		50			1 2
2010		30			
0015		79		,1.	7
7018		33	1	, ,	4

	70.80 A 70.5	
		PAGE NO. DATE
Ideas	1966 Manonic, Hex	Bytes Mayeles 7-state
20.50	as about soils bear in	131 061 11 12 1 Sheet
200	MOVEA SE	11. 1011 - 5
1200	MOV A, 0 17A	1274 (2 Moral 5
022	ACI DO CE	7 2 7
8 23	00	· KATLAND
Dig	TO COM PA GOOM	5.11
075	STORE MOV A,M TE	1 2 7
086	STAX O WM 1:101 12	1H 2412 7
027	INX Homes 23	() 5.001 6
028	OCXID IB	6
029	pers chini op	1: at is isomething
102A	JN2 STORE CZ	3 h valis
028	25	
020	The blow heat 00	11010 11 -12J
020	Hi Trobo hom 76	~105 . 1: 2 5 1
10-25		
30		CHECK
411.22	when I have been boat to	to a way
the second	appropriate to story a pricely	9 17
	The state of the second of the	(d 2 4)

3. Write a program to transfer a block of data from B010H to B020H. The end of block is indicated by 00H.

```
LXI H, B010
       MVI B,32
       MVI C,05
DENTRY: MOV M,B
       INR B
       INX H
       DCR C
       JNZ DENTRY
       MVI A,00
       MOV M,A
       LXI H, B010
       LXI D, B020
           MOV A,M
CHECK:
       STAX D
       INX H
       INX D
       CPI 00
       JNZ CHECK
       HLT
```



ting 4	
The second secon	MIT III PAGE NO.
	CAPE COLOR
Code	LXI H. BOIOH // load start addr. in the
· ·	mul 8,324 // load data in 109. B
1	MUI C, 05H 11 load longth of data in C
S. Commission of Santanana	· · · · · · · · · · · · · · · · · · ·
	DENTRY:
	mov MB 1/ Copy from B to Al points
	INR B 11 increment data
4	INX H 11 increment ciddress
1	pan c // degrament counter
-	JNZ DENTRY 11 repeat fill counter is zero
	MVI ADDA // load releas accumulator
	MOV MA Il store DON in lost adde
The state of the land of the l	
	LXI H, BOIDH // load add -1 in H, L pa
	LXI D, BOZDH // load addi-2 in DE pai
mangapinal garbagan magai magainan di ant jang milih sembalap seberah	CHECK:
	MOV AM Il load data from H, I pointer to
-	CTAX P // Copy from A to DE poin
	INX H 1/ increment addre-1
	INX D 11 incre ment addy -2
annight agus a an agus agus agus agus ann agus agus agus agus agus agus agus agus	CPI 00 11 compare A's content with
	IN = CHECK / support till A equals 00
	HLT // end excecution
Address	Label Mnemonics Her Ryter N-cycle 7-
0000	1×1 4,6010 E1 3 3
0001	60
0002	BD
0002	2 2

	FAGE NO. DATE)
Aldress	Label Mnemonies Hox Bytes M-cycles	7-96
0004	32 200000000000000000000000000000000000	water
0005	MUI GOS OF 100 2 12	・マ
5006	20 5 integral 1 3 1 (C)	1210
0007	DENTRY MOV M.B 70 1 2	7
0008	INR B 09	E
6009	INX/H = 23 13 gel 5 1/13/1 -	6
600A	P.P.CR.C. 1 2 OP 1	4
0003	JN2 DENTRY CZ 310 TO-3	(0
0000	- destina al B. 2025- 07 6 4 min	
0000	Deriver land. 60 programs	(a)
DOOR	1500 MVI A000000 36 m20 1002	7
DOOF	2 m2 (2) 2 - 2022 00 150 2 1024	
0010	MOUMA 77 1 2	7
5017	LX1 H, 8010 21 31 105 3	10
0012	r. ss (1 mail and 10 9 -d vers	
0013	it of blooks BO H NIGHT	
6014	1 2 1 1 P 8020 0 11 3 1 10.3	10
5015	my Si const de 20 . The man	
2016	2200 is 1671. 2) as 180 mar 10 18	
0017	CHECK MOV A, MOV A, MOVE 17E 1	7
8100	- Shine STAXIDADS 12 1. Sail	7
0019	Lorens High xtan by 1 23 holes in	6
55(A	1NX D 13 1	6
0018	MACPIODAR FEMOREN	1
D01C	1 1 521 while 100 9 14. vols	
8010	THE THE CHECK! 1 CZ 3	10
DOIR	4 11 8214. 19163 N 17 7 10 Vary	
DOIL	coincipal house oo till.	
0020	HLT 76 1 2	5

Exercise: (Answer the following questions)

- 1) The register always pointing to the location of next instruction to be fetched is ___
- 2) If starting address of 8KB RAM is 3000H, than ending address is ____
- 3) Define Bus and give its type.
- 4) A memory chip in a microcomputer system has eight address lines and eight data lines. How many bytes can be stored in it?
- 5) If the starting address of the chip is 9000H, What will be the ending address?
- 6) How many address lines are necessary to access 16 Kbytes EPROM & 8 Kbytes RAM?

	PAGE NC. CATE
#	Exercise answers:
1	PC (Program (ounter)
2	Stouting addr = 3000 H Size of & ICB RAM = 2 ¹³ bytes In 8085, 64 kB max mem . 2 ¹⁶ bytes For, & ICB, 16-13 = 3 16, 2 16, 2 16, 2 16, 2 blocks or wints Ist block of 16:3000 to 3FFF 2 nd block of 16:3000 to 4FFF
2	ending address = [4FFF h] Bus is a set of electrical lines used to transfer data signals among different parts of the parts. Types of bus: (1) Address Bus (2) Data Bus (3) Control Bus
n 5	28 = [256 bytes] Depends on Size of chip, but may; t can go fill FFFF H
6	EPROM: 46 KB = 2 ¹⁴ => 14 address lines RAM: 8 KB = 2 ¹³ => 13 address lines
B management	