

Final Worksheet

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Section /Group : A/B

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Subject Name : MICROPROCESSOR AND INTERFACING LAB

Subject Code:CAP-356

1. Aim/Overview of the practical : Write an assembly language program to add two 16 bit numbers .
2. Task to be done: program to add two 16 bit numbers .
3. Hardware Required: 8085 Microprocessor
4. Program:
5. Code ;
LHLD 2050h
XCHG
LHLD 2052h
MVI C,00h
DAD D
JNC LOOP
INR C
LOOP: MOV A,C
STA 2055h
SHLD 2056h
HLT

Observations:

1. Step I : Initialize the data segment.
2. Step II : Get the first number in AX register.

3. Step III : Get the second number in BX register.
4. Step IV : Add the two numbers.
5. Step V : Display the result.

8.Output:

The screenshot displays the Sim8085 microprocessor simulator interface. The main window is divided into several sections:

- Registers:** A table showing the current values of the 8085 registers.

Register	Value
A/PSW	0x 00 02
BC	0x 00 00
DE	0x 00 00
HL	0x 00 00
SP	0x 00 00
PC	0x 08 00
- Flags:** A section showing the status of the Z, S, P, C, and AC flags, all of which are currently cleared (0).
- Assembly Code:** A window showing the assembly code being executed. The code is as follows:


```

1  ;< 19bca1126
2  LHLD 2050h
3  XCHG
4  LHLD 2052h
5  MVI C,00h
6  DAD D
7  JNC LOOP
8  INR C
9  LOOP: MOV A,C
10 STA 2055h
11 SHLD 2056h
12 HLT
13
      
```
- Memory View:** A table showing the contents of memory locations. The address 2050h is highlighted, showing the value 0x FF 05 01 00.

Address	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
200	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
201	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
202	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
203	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
204	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
205	00	FF	05	01	00	00	00	00	00	00	00	00	00	00	00	00
206	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
207	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
208	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
209	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
20A	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
20B	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
20C	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
20D	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
20E	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
20F	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
- Assembler Output:** A window showing the assembly code and its corresponding machine code.

Line	Machine Code	Assembly Code
1		;< 19bca1126
2	2A 50 20	LHLD 2050h
3	EB	XCHG
4	2A 52 20	LHLD 2052h
5	0E 00	MVI C,00h

Evaluation Grid (To be created as per the SOP and Assessment guidelines by the faculty):

S. No	Parameter	Marks obtained	Maximum marks
1.	Worksheet		10
2.	Post lab Questions		5
3.	Free lab Questions		5