EXPERIMENT NO. 2

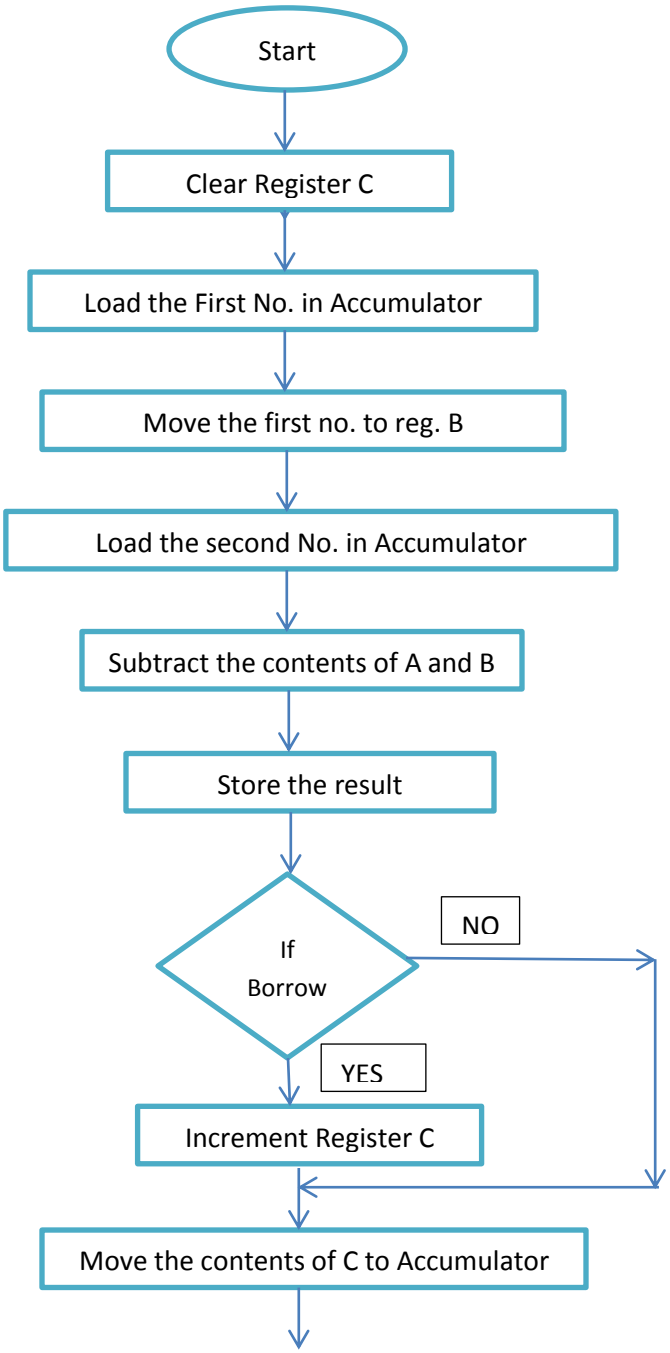
AIM: To subtract two 8-bit Hexadecimal numbers using **Direct Addressing** mode.

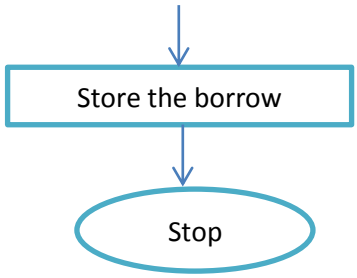
APPARATUS REQUIRED: 8085 Microprocessor Kit, Power Supply.

ALGORITHM:

1. Enter two numbers.
2. Subtract them.
3. Store the result and borrow.
4. End of Program.

FLOW CHART:





PROGRAM:

Memory Address	Mnemonics	Hex Codes	Remarks
2000	LDA ,2050h	3A	Clear Accumulator.
2001		50	
2002		20	
2003	MOV C,A	4F	Clear Register C.
2004	LDA ,2051h	3A	Store the First no. in Accumulator.
2005		51	
2006		20	
2007	MOV B,A	47	Copy this No. to Register B
2008	LDA, 2052h	3A	Sore the second No. in Accumulator.
2009		52	
200A		20	
200B	SUB B	90	Subtract the two No.s
200C	STA ,2053h	32	Store the result
200D		53	
200E		20	
200F	JNC , 2013h	D2	Check for Borrow
2010		13	
2011		20	
2012	INR C	0C	Increment Register C
2013	MOV A,C	79	Copy the Borrow to Accumulator
2014	STA ,2054h	32	Store the Borrow
2015		51	
2016		20	
2017	HLT	76	Program Terminated.

INPUT DATA:

1st set of input:

2050-00h
2051-03h(B)
2052-04h(A)
Output:
2053-01h(RESULT)
2054-00(BORROW)

2nd set of input:

2050-00h
2051-04h(B)
2052-03h(A)
Output:
2053-FF(RESULT)
2054-00(BORROW)

PRECAUTION:

Make sure that all the machine codes should be as specified in the program.