

EXPERIMENT NO. 6

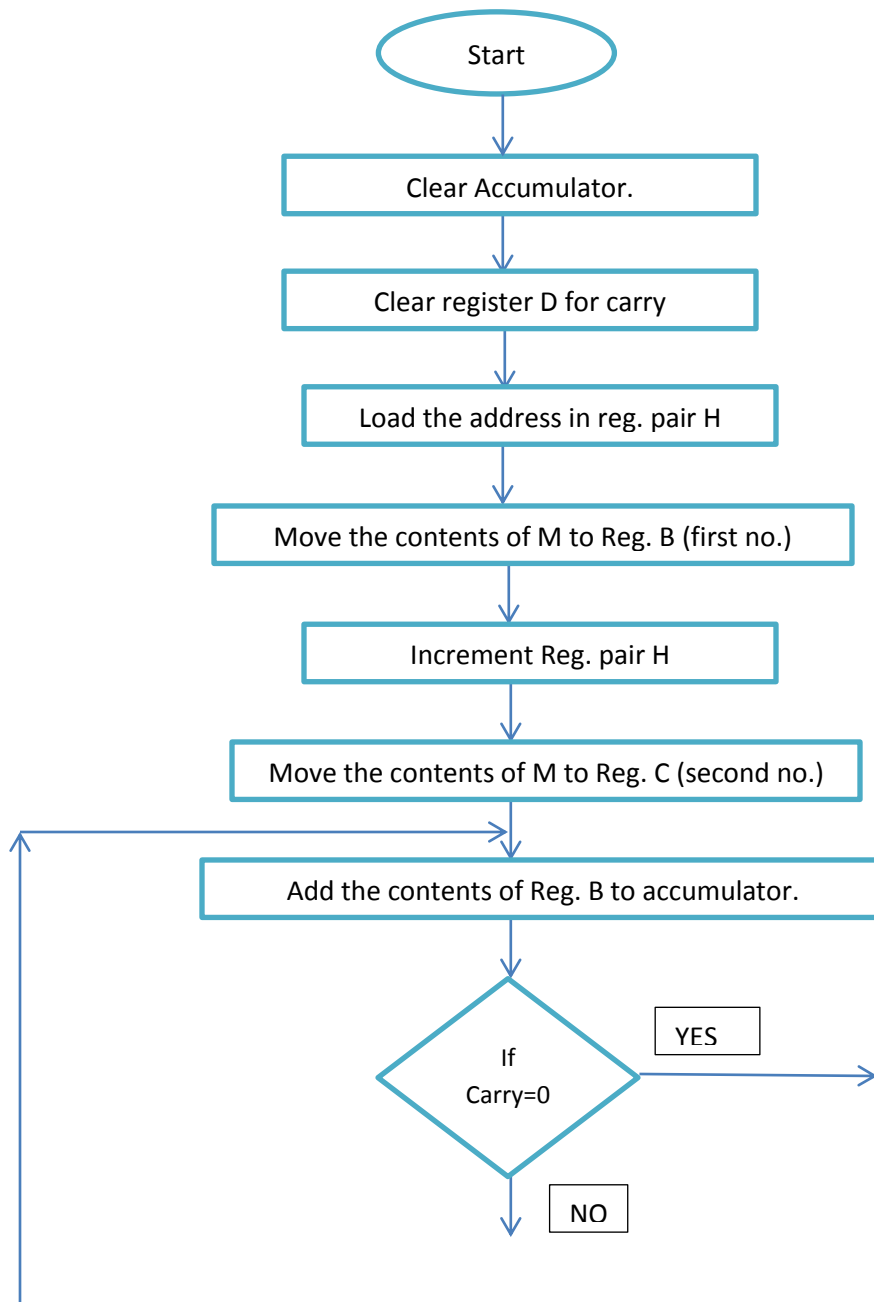
AIM: To multiply two 8-bit numbers by repeated addition.

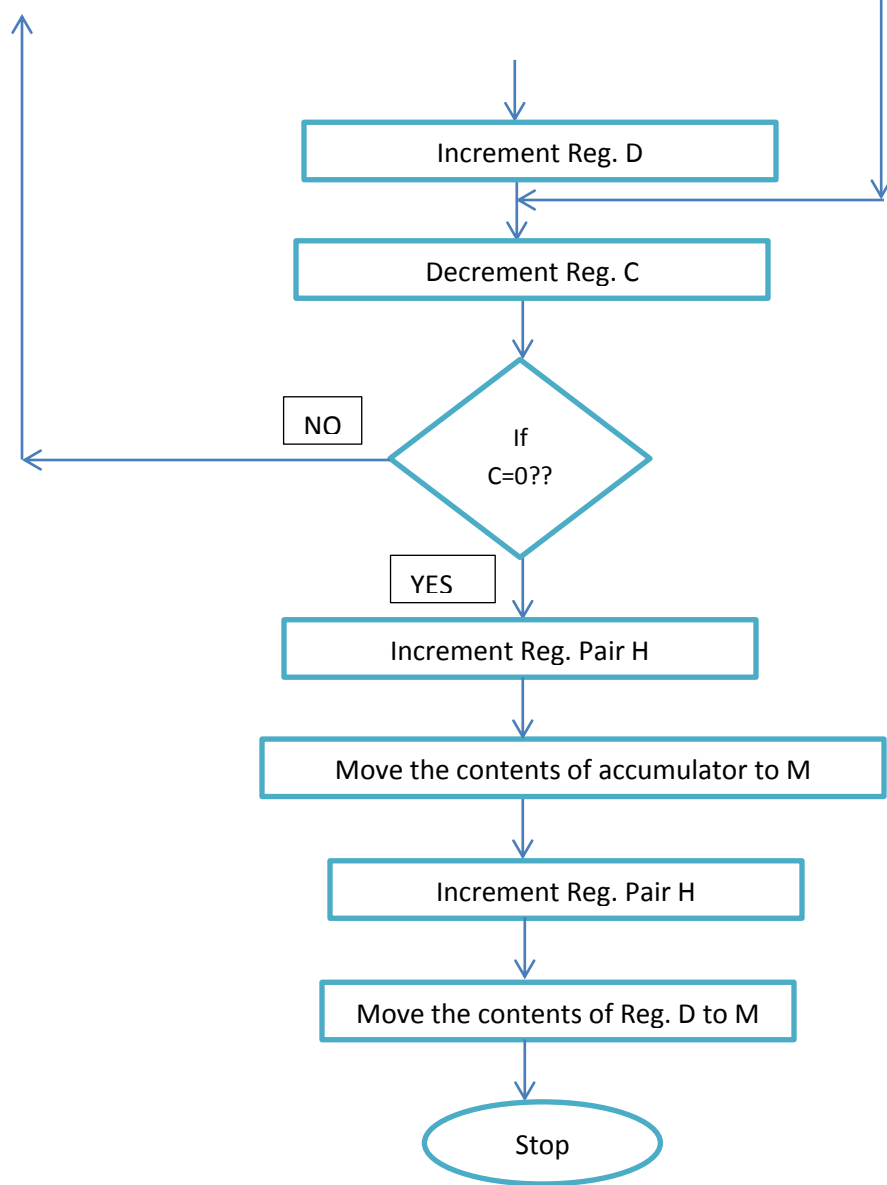
APPARATUS REQUIRED: 8085 Microprocessor Kit.

ALGORITHM:

1. Load the two nos. from two successive memory locations.
2. Add the first no. to itself and decrement the second number.
3. Repeat the second step till the second no. becomes 0.
4. Store the result and carry at some address.
5. End of Program.

FLOW CHART:





PROGRAM:

Memory Address	Mnemonics	Hex Codes	Remarks
2000	XRA A	AF	Clear Accumulator
2001	MOV D,A	57	Initialize carry as 0
2002	LXI H 2050H	21	Load the address in H reg. pair.
2003		50	
2004		20	
2005	MOV B,M	46	Copy the contents(no.), of the memory to reg. B
2006	INX H	23	Increment the contents of H reg. pair

2007	MOV C,M	4E	Copy the contents of the memory to the reg. C
2008	ADD B	80	Add the the contents of reg. B to the contents of accumulator.
2009	JNC 200DH	D2	Jump if no carry to address 200D
200A		0D	
200B		20	
200C	INR D	14	Increment the contents of reg. D(if there is a carry)
200D	DCR C	0D	Decrement the contents of reg. C
200E	JNZ 2008H	C2	Jump if the contents of reg. C are not zero, to the addr. 2008
200F		08	
2010		20	
2011	INX H	23	Increment the contents of Reg. pair H
2012	MOV M,A	77	Copy the contents of the accumulator to the memory(the product)
2013	INX H	23	Increment the contents of Reg. pair H
2014	MOV M,D	72	Copy the contents of the Reg. D to the memory(carry).
2015	HLT	76	End of Program

INPUT:

1st set :

First No.(2050H) = 14H

Second No. (2051H)= 02H

OUTPUT:

Product(2052H)=28H

Carry(2053H)=00H

2nd set:

First No.(2050H) = ABH

Second No. (2051H)= 0FH

OUTPUT:

Product(2052H)=05H

Carry(2053H)=0AH

PRECAUTION:

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