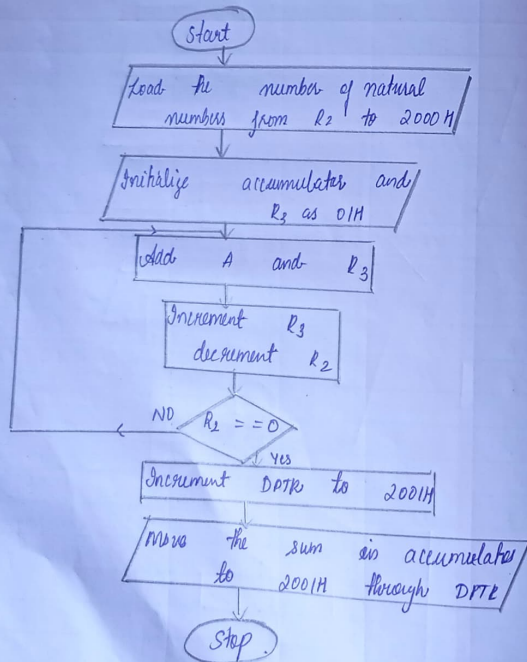


PROBLEM SPECIFICATION

Yp 2000H → o/p 2001H
 Count of natural numbers N Sum of N numbers.

Flow chart



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SUM OF SERIES

a) Aim:

Find the sum of N - natural numbers

PROGRAM:

Memory Location	Hexcode	Label	Instructions	Comments
8000	902000		MOV DPTR, #2000H	Initialize DPTR with 2000H.
8003	60		MOVX A, @DPTR	Move memory pointed by DPTR to A.
8004	FA		MOV R2, A	Move content from A to R2.
8005	7B01		MOV R3, #01H	Initialize R3 with 01H.
8007	7400		MOV A, #00H	Initialize A with 00H.
8009	2B	LOOP	ADD A, R3	Add content of A and R3.
800A	0B		INCR3	Increment R3
800B	DAFC		DJNZ R2, LOOP	Decrement the data in R2 and jump to label 'LOOP' if value not equal to 0.
800D	A3		INC DPTR	Increment DPTR.
800E	FD		MOVX @DPTR, A	Save sum of series in natural memory.
800F	80FE	HERE	SIMP HERE	End the program

OBSERVATION

i/p

o/p

2000H : 05 H

2001H : 15 OF



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RESULT:

Calculated the sum of the given natural numbers.

PROGRAM SPECIFICATION

3000H Count

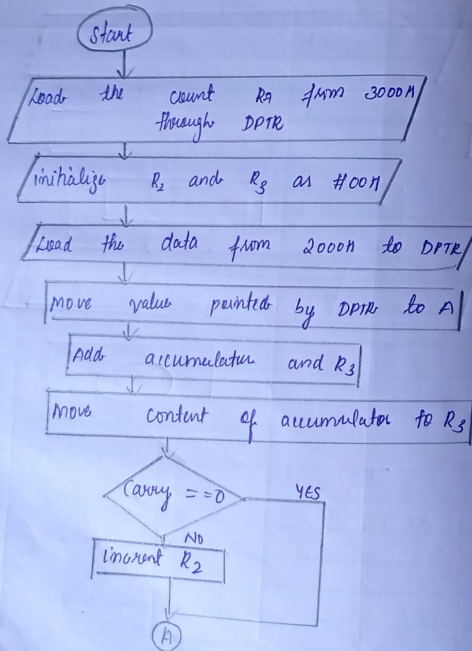
2000H
2001H
2002H

8 bit
numbers

4000H Sum

4001H carry

Flow chart



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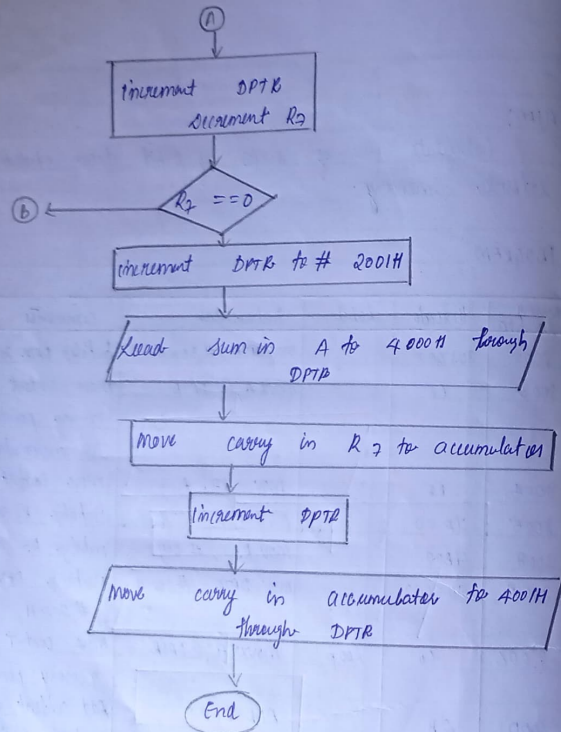
Date: / /

B. AIM:

Calculate sum of series of 8 bit data stored at external memory.

PROGRAM

Memory Location	Hexcode	Label	Instructions	Comments
8000	903000		MOV DPTR, #3000H	Initialize DPTR with #3000H
8003	ED		MOVX A, @DPTR	move content from memory pointed by DPTR to accumulator.
8004	FF		MOV R7, A	Move content from A to R7
8005	7A00		MOV R2, #00H	Initialize R2 with #00H
8007	7B00		MOV R3, #00H	Initialize R3 with #00H
8009	902000		MOV DPTR, #2000H	Initialize DPTR with #2000H
800C	ED	Loop	MOVX A, @DPTR	move content from memory pointed by DPTR to accumulator.
800D	2B		ADD A, R3	Add content of accumulator and R3 and store in accumulator
800E	FB		MOV R3, A	Move content from A to R3
800F	5001		JNC SKIP	Jump to SKIP if carry=0
8011	0A		INC R2	Increment R2
8012	A3	SKIP	INC DPTR	Increment DPTR
8013	DFF7		DJNZ R7, Loop	Decrement data at R7 and jump to loop if decrement value not equal 00.



OBSERVATION

input data

2000H : 01
2001H : 02
2002H : 03
2003H : 04

output data

4000H = 0A (sum)
4001H = 00 (carry)

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8015	904000		MOV DTR, #4000H	Initialize DTR with # 4000H
8018	FD		MOVX @DTR, A	Move content from accumulator to memory pointer by DTR.
8019	EA		MOV A, R2	Move content from R2 to A
801A	AS		INC DTR	Increment DTR
801B	FD		MOVX @DTR, A	Move content from accumulator to memory pointer
801C	80FE	HERE	STMP HERE	End program.

RESULT:

calculated sum of given natural numbers and sum of a series of 8 bit data stored at external memory.

~~10/3~~
~~23/12~~