MIT ASSIGNMENT - 6

1. The following block of data is stored in memory locations from 3055H to 305AH. Write a program to transfer the block of data in reverse order at same memory location.

DATA (HEX): 22, A5, B2, 99, 7F, 37

;Program1

lxi h,3045h lxi d,304Ah call reverse hlt

;Subroutine

reverse: mov b,m xchg mov c,m mov m,b xchg mov m,c inx h dcx d

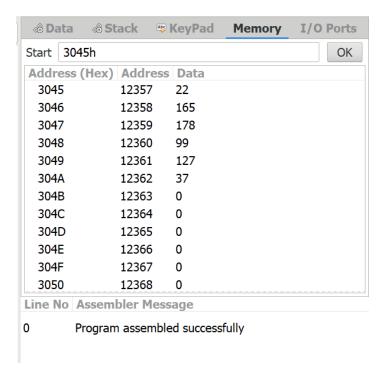
stc cmc

mov a,e

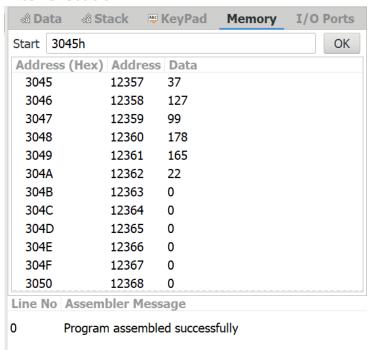
sub l

rz rc

jmp reverse



After execution -



2. Find the square of the given numbers from memory location 6100H and store the result from memory location 7000H.

;Program2

lxi h,6100h

lxi d,7000h

call square

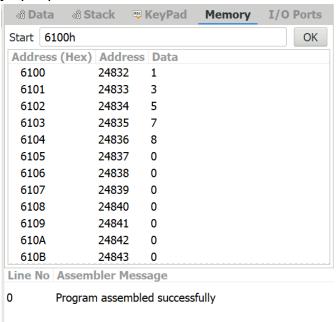
hlt

;Subroutine

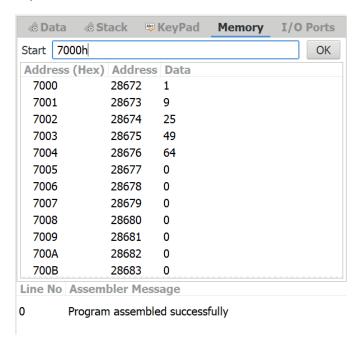
square: mvi a,00h

mov c,m mov b,m rep: add c dcr b jnz rep stax d inx d inx h mov a,e cpi 05h rz

jmp square



Square of the numbers are -



3. WAP to find Factorial of a given number using Call and Subroutine.

;Program3

Ihld 3000h

mvi d,0

mvi e,0

xchg

mov b,e

start: dcr b

mov a,b

cpi 01

jz end

mov c,b

call factorial

mov d,h

mov e,l

mov b,c

mvi h,0

mvi I,0

jmp start

end: xchg

shld 3002h

hlt

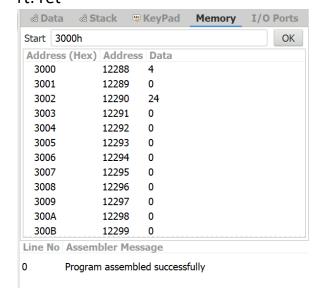
;Subroutine

factorial: dad d

dcr b jz rt

call factorial

rt: ret



4. WAP for Fibonacci Series using Call and Subroutine.

;Program4

mvi b,01h

mvi c,01h

mvi d,00h

lda 3000h

lxi h,3001h

mvi m,01h

dcr a

jz end

inx h

mvi m,01h

dcr a

jz end

mov e,a

call fibonacci

end: hlt

;Subroutine

fibonacci: mov a,b

mov b,c

add c

mov c,a

inx h

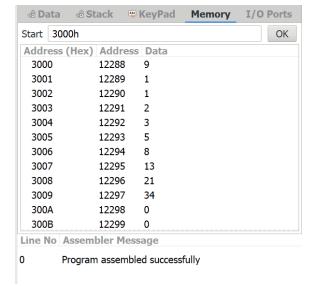
mov m,a

dcr e

jz rt

call fibonacci

rt: ret



The Fibonacci series starts from address 3001h to 3009h.

5. WAP to find Multiplication of Two 8-Bit Numbers using Call and Subroutine

;Program5

lda 3000h

mov b,a

lda 3001h

mov c,a

call multiply

sta 3002h

hlt

;Subroutine

multiply: dcr b

jz rt

add c

jmp multiply

rt: ret

