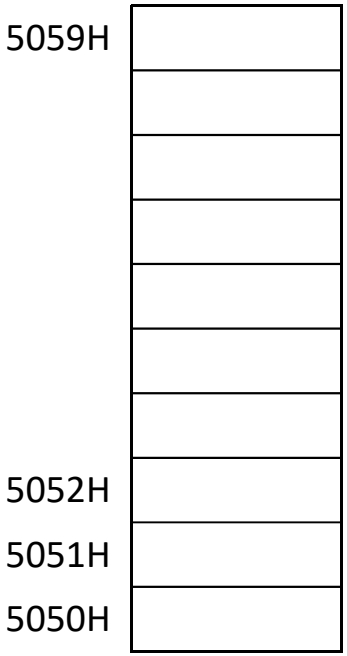
Programs

- **Transfer data from 5050H to 5060H only if data is between 30H and 70H else store 00H in the next table. (Assuming 10 data)**

```
        LXI H,5050H     ;source table
        LXI B,5060H     ;destination table
        MVI D,0AH       ;counter
UP:     MOV A,M
        CPI 31H         ;check if number is greater or equal to 31H
        JC DOWN         ;if no goto DOWN
        CPI 70H         ;check if number is less than 70H
        JC DOWN1        ;if yes goto DOWN1
DOWN:   MVI A,00H
DOWN1:  STAX B          ; [BC] <- A
        INX H
        INX B
        DCR D           ;decrease the value of counter
        JNZ UP          ;goto UP until value of D is zero
        HLT
```



Programs

- **Write an 8085 program to add ten numbers stored in the consecutive memory locations starting from 4080H and store the 16-bit result at end of the table.**

```
        LXI H,4080H     ;source table
        MVI C,0AH       ;counter
        MVI D,00H       ;sum register
        MVI E,00H       ;carry register
UP:     MOV A,M
        ADD D           ;A<-A+D
        MOV D,A
        JNC PASS        ;goto PASS if carry is not generated
        INR E           ;otherwise increase carry register by 1
PASS:   INX H
        DCR C
        JNZ UP
        MOV M, D
        INX H
        MOV M, E
        HLT
```

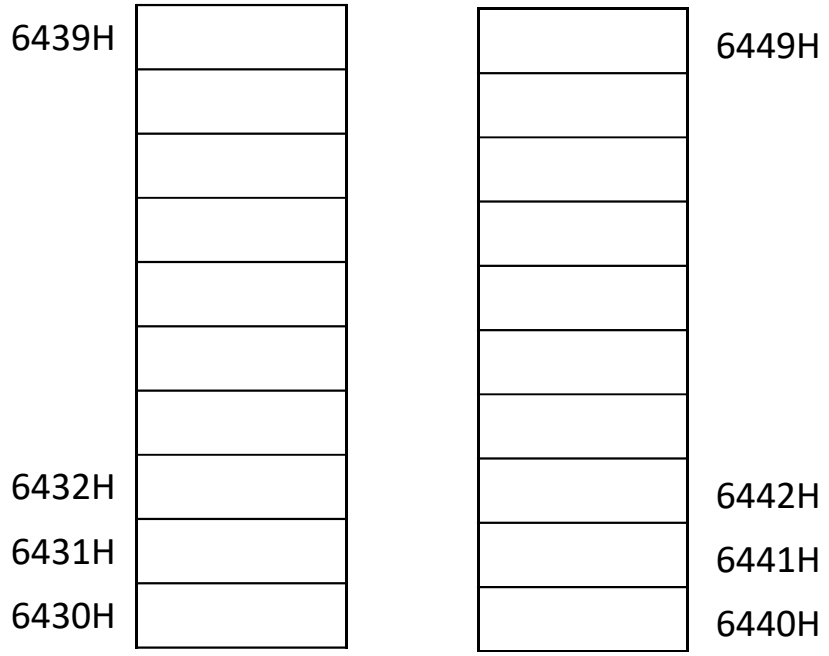
	4080H
	4081H
	4089H
SUM	408AH
CARRY	408BH

Programs

- **Transfer ten data, which has bit D5 and D0, 0 and 1 respectively from 6430H to 6440H, else store FFH instead of transformation.**

```
        LXI H,6430H     ;source table
        LXI D,6440H     ;destination table
        MVI C,0AH       ;counter(for 10 numbers)
UP:     MOV A,M
        ANI 41H         ;mask D5 and D0
        CPI 01H         ;check if D5=0 and D0=1
        JNZ PASS        ;if no, goto PASS
        MOV A,M
        JMP PASS1
PASS:   MVI A,FFH
PASS1:  STAX D
        INX H
        INX D
        DCR C           ;decrease the value of counter
        JNZ UP          ;goto UP until value of C is zero
        HLT
```

	D7	D6	D5	D4	D3	D2	D1	D0
ANDing	0	1	0	0	0	0	0	1
	0	D6	0	0	0	0	0	D0
If ans is	0	0	0	0	0	0	0	1

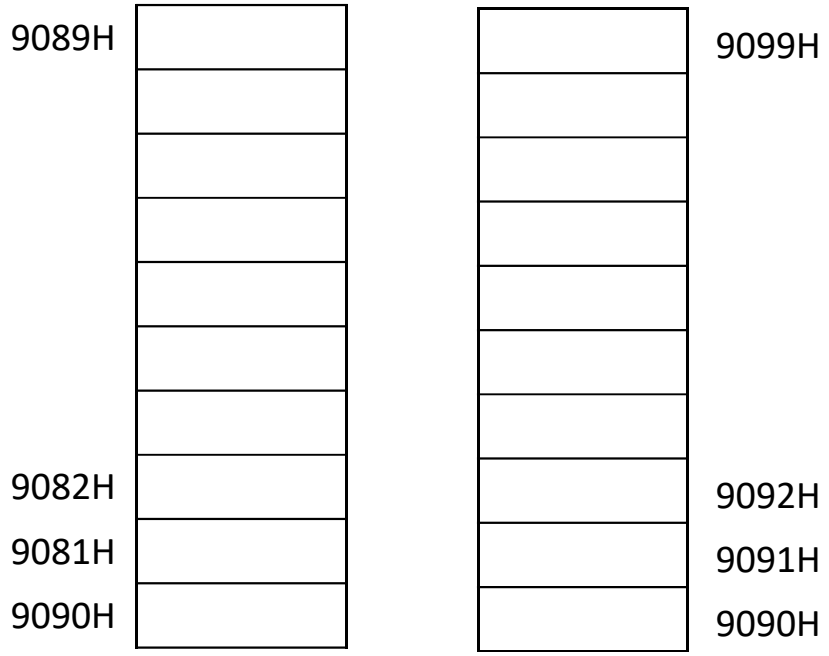


Programs

- **Write a program to transfer eight-bit numbers from 9080H to 9090H if bit D_5 is 1 and D_3 is 0. Otherwise transfer data by changing bit D_2 and D_6 from 1 to 0 or from 0 to 1. Assume there are ten numbers**

```
        LXI H,9080H     ;source table
        LXI D,9090H     ;destination table
        MVI C,0AH       ;counter
UP:     MOV A,M
        ANI 28H         ;mask  D5 and D3
        CPI 20H         ;check if D5=1 and D3=0
        JNZ PASS        ;if no goto PASS
        MOV A,M
        JMP DOWN
PASS:   MOV A,M
        XRI 44H         ;toggle bit D2 and D6
DOWN:   STAX D
        INX H
        INX D
        DCR C
        JNZ UP
        HLT
```

	D7	D6	D5	D4	D3	D2	D1	D0
ANDing	0	0	1	0	1	0	0	0
	0	0	D5	0	D3	0	0	0
If ans is	0	0	1	0	0	0	0	0



Programs

- **8-bit data are stored in two tables starting at 4050H and 4070H, 16 data in each table. Add corresponding data and store it in the third table starting at 4090H.**

```
        LXI H,4050H   ;first source table
        LXI B,4070H   ;second source table
        LXI D,4090H   ;destination table
UP:     LDAX B        ;A<-[BC]
        ADD M         ;A<-A+[HL]
        STAX D        ;storing sum
        INX H
        INX B
        INX D
        MOV A,L
        CPI 60H
        JNZ UP
        HLT
```