

Program 2

Program to execute ascending/descending order.

START: MVI B, (N-1)	; Load register B with (N-1), No. of passes
MVI C, (N-1)	; Load register C with (N-1) comparisons
NXTPASS: LXI H, F100	; Move starting address of the Data into HL rp.
LOOP: MOV A, M	; Move data to register A
INX H	; Increment the pointer.
CMP M	; Compare with the next element
JC NOSWAP	; If carry jump to NOSWAP, else interchange the data
	; Interchange two data
SWAP: MOV D, M	; Consecutive elements
MOV M, A	; Decrement the memory location
DCX H	
MOV M, D	; Increment register pair.
INX H	; Decrement register C (No. of comparisons)
NOSWAP: DCR C	; If not zero jump to loop, else
JNZ LOOP	; decrement register B (No. of passes)
DCR B	; The data in register B is moved to register C
MOV C, B	; If not zero, jump to next pass
JNZ NXTPASS	; Initialize HL pair with address of the list
DISPLAY: LXI H, F100	(ascending/descending)
	; Initialize counter.
MVI C, N	; Load the element in register A.
NEXT: MOV A, M STA	; Store the content of register A in FFF1.
FFF1	; Push addr, of the data into the Stack
PUSH H	; Push the content into the Stack.
PUSH B	; Display the data on data sheet.
CALL UPDDT	; Wait for some time.
CALL DELAY	; Pop the counter
POP B	; Pop the addr. of the list.
POP H	; Increment pointer
INX H	; Decrement counter
DCR C	; If Counter=0 terminate the program, else take
JNZ NEXT	next data for comparison.
	; Terminate the program.

RESULT SHEET:

N = 07

Src.addr.	Data
F100	30
F101	12
F102	A3
F103	04
F104	46
F105	71
F106	23

For Descending order Change JC to JNC ”