Linear search:

ALP to perform linear search on a given array. Number of elements: C040; Elements: C041, C042, ...; key: C070; RESULT: C071

(1-found, 0-not found)

LXI H C040H	- HL ← C040, at M[C040] contains the array size
MOV C M	- Array size is copied to Loop variable C
LDA C040H	- Load the key from M[C070] to Acc
BACK: INX H	- Increment HL to point to the next array-element
CMP H	- Content of Acc (key) is compared with M[HL]
JZ FOUND	- If M[HL] matches the key jump to 'FOUND'
DCR C	- Decrement loop variable C (number of iterations)
JNZ BACK	- If C ≠ 0, jump to 'BACK'
MVI A 00H	- Store 00 at Acc (to indicate that the key wasn't found)
JMP END	- Jump to 'END'
FOUND: MVI A 01H	- Store 01 at Acc (to indicate that the key

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was found).

END: STA $C071_H$ - store the content of Acc at M[C071]

HLT - End of program

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