LINEAR SEARCH

AIM

To develop an assembly language program to perform linear search on an array of 8-bit numbers.

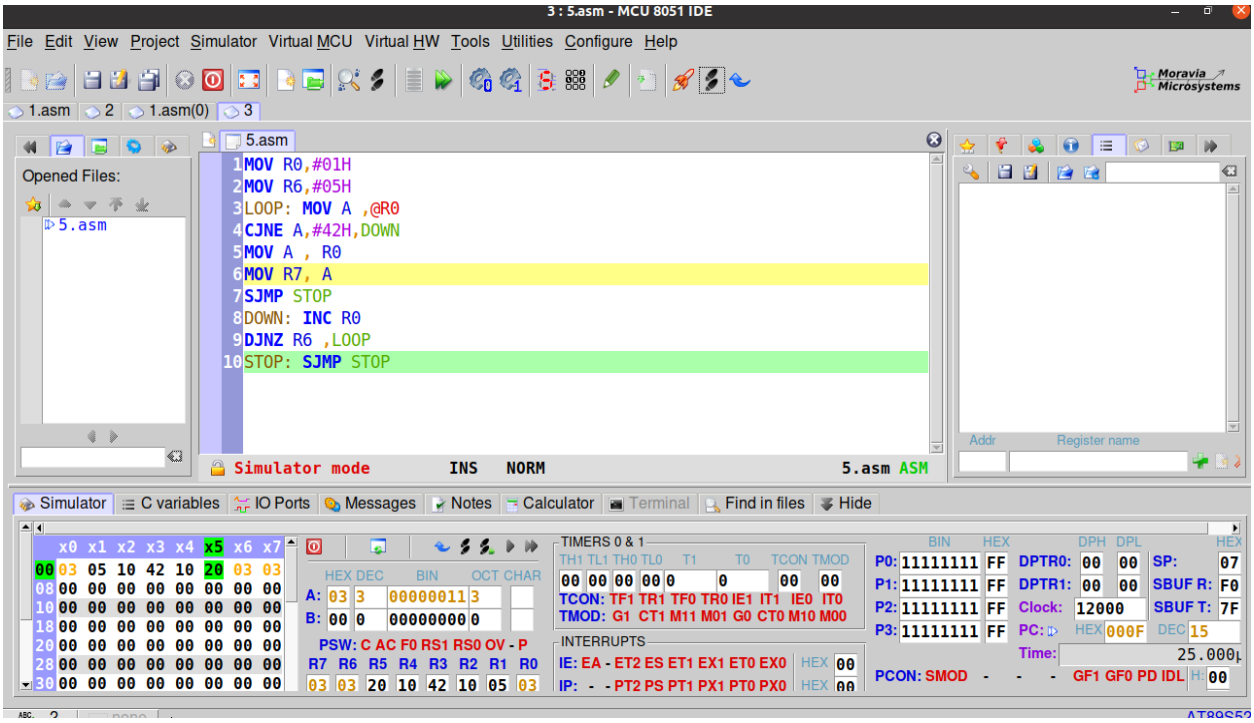
ALGORITHM

```
Algorithm 1 Linear search on an array of 8-bit numbers
1: Start
2: Read the size of input array (n).
3: Read the input array (ar r ).
4: Read the number to be searched(ke y).
5: for i = 0 to n do
6:    if ar r [i ] = ke y then
7:          Break the loop.
8:     end if
9: end for
10:if i = n then
11:   Print "Element not found"
12:else
13:   Print "Element found at index:",i
14:end if
15:Stop
```

SOURCE CODE

```
MOV R0,#01H
MOV R6,#05H
LOOP: MOV A ,@R0
CJNE A,#42H,DOWN
MOV A , R0
MOV R7, A
SJMP STOP
DOWN: INC R0
DJNZ R6 ,LOOP
STOP: SJMP STOP
```

OUTPUT:



Output at R7

RESULT:

Assembly language program to perform linear search on an array of 8-bit numbers has been has been developed and verified using MCU-8051-IDE.

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