

CMP2 10

10-3-08

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SEQUENTIAL SEARCH : ON AN UNORDERED

PHONE BOOK.

INPUT: $n \geq 1$ (# of names)

N_1, N_2, \dots, N_n (list of names)

T_1, T_2, \dots, T_n (list of PH.#s)

NAME (TARGET name to search for.)

OUTPUT: THE PH.# T_i FOR WHICH $N_i = \text{NAME}$,

IF SUCH A NAME EXISTS. OTHERWISE PRINT
A message.

1.) get $n, N_1, \dots, N_n, T_1, \dots, T_n, NAME$

2.) $i \leftarrow 1$

3.) $found \leftarrow false$

4.) while ($i \leq n$) and (not found)

5.) [if $N_i = NAME$

$found \leftarrow true$

 print T_i

6.) else

$i \leftarrow i + 1$

7.)

10.) if not found

11.) print 'sorry' NAME 'not found'

12.) stop

LOGICAL OPERATORS

A Proposition is a STATEMENT or SENTENCE
THAT CAN BE ASSIGNED A TRUTH VALUE T, F

(1, 0).

Prop.

EX $1 = 2$

$1 = 1$

NOT A Prop

$x = 1$

$a + b = 5$

LET A, B BE PROPOSITIONAL VARIABLES.

CONJUNCTIONS

AND

$A \wedge B$

A	B	A and B
F	F	F
F	T	F
T	F	F
T	T	T

A	not A
F	T
T	F

NEGATION

$\neg A$

Disjunction

or

"inclusive or"

$A \vee B$

A	B	A or B
F	F	F
F	T	T
T	F	T
T	T	T

Exclusive-or

xor

$A \oplus B$

A	B	A xor B
F	F	F
F	T	T
T	F	T
T	T	F

GENERAL SEQUENTIAL SEARCH

INPUT: $n \geq 1$ (# of #s)

a_1, \dots, a_n # (list of #s to search)

t (target # to search for.)

OUTPUT: THE POSITION i s.t. $t = a_i$, IF IT EXISTS, 0 OTHERWISE.

- 1.) get n, a_1, \dots, a_n, t
- 2.) $i \leftarrow 1$
- 3.) $\text{found} \leftarrow \text{false}$
- 4.) while ($i \leq n$) and (not found)
- 5.) if $a_i = t$
- 6.) $\text{found} \leftarrow \text{true}$
- 7.) else
- 8.) $i \leftarrow i + 1$
- 9.) if (not found)
- 10.) $i \leftarrow 0$
- 11.) Print i
- 12.) stop