Available Tools

Get Lost Name (p, c, e)
Get First Name (p, c, e)
Get Phone Name (p, c, e)
Get Guide 1 (p)
Get Guide 2 (p)
Typical Data

LName = "Bush"
FName = "George"
NMax = 124
CMax = 3
EMax = 115
Typical Case: Binary Search

Find Page

Searching 13 - 17
(5 pages)

Break into 2 "halves" left side right side
LS1 LS2 RS1 RS2

13 14 15 17

Note left side will be "short side" when num of pages not even.

Strategy To Discard
1. GName = GetGuide 2( LS2)

2. Keep Left Side = LName ≤ GName
Get/Draw And PhoneBook Data

Read Name
Read FName
Read PMax
Read CMax
Read EMax

Typical Data
{Name = "Bush"
FName = "George"
PMax = 124
CMax = 3
EMax = 115}
Find Entry Num

Name Found = False

FOR entry = 1 TO Entry

LN = Get Last Name (pp, cc, entry)
FN = Get First Name (pp, cc, entry)

IF LN = LName AND FN = FName THEN
  Name Found = T
ELSE
  Ce = Entry
ENDIF

RETURN
FindCol Num

For C = 1 To CMax
  LN1 = GetLastNam(pp, C, 1)
  LN2 = GetLastNam(pp, C, EMax)
  IsInCol = (LN1 >= LN2) and (LN1 = LN2)
  If IsInCol
    T = C
  Else
    CC = C

Return
Find Page Num

\[ CS2 = 1 \quad RS2 = P_{\text{Max}} \]

\[ \text{Num Pgs} = RS2 - CS1 + 1 \]

\[ \text{Half Pgs} = \text{Num Pgs} \div 2 \quad \text{(int)} \]

\[ CS2 = CS1 + \text{Half Pgs} - 1 \]

\[ RS1 = CS2 + 1 \]

\[ \text{Page Found} = \text{False} \]

\[ \text{GName} = \text{GetGuide 2 (CS2)} \]

\[ \text{Keep Left Side} = \text{GName} \leq \text{GName} \]

\[ \text{Keep Left Side} \]

\[ T \]

\[ RS2 = CS2 \]

\[ CS1 = RS1 \]

\[ \text{Num Pgs} = RS2 - CS1 + 1 \]

\[ \text{Half Pgs} = \text{Num Pgs} \div 2 \]

\[ CS2 = CS1 + \text{Half Pgs} - 1 \]

\[ RS1 = CS2 + 1 \]

\[ \text{Page Found} = CS1 = RS2 \]

\[ \text{PP} = CS1 \]

\[ \text{Until} \quad \text{Page Found} \]

Return