OPERATIONS MANUAL

FOR

PLANT RECORD TRACKING/MAPPING SYSTEM

Copyright (c) David Murbach 1988
SYSTEM OVERVIEW

This IBM based Plant Record Tracking/Mapping System is an integrated micro-computer system developed for the purpose of tracking plant information and mapping plant location for use by horticultural institutions with plant collections. Information such as accession number, family, genus, species, subspecies or variety, location, nativity, source, and plant notes are tracked based on unique accession numbers.

The Plant Record Tracking/Mapping System is a series of data files and procedural files written in dBase III Plus code and AutoCad (Version. 2.5) Lisp Language. Both commercially available programs, dBase III Plus and AutoCad are necessary to run this application program.

This application program requires minimal computer experience and an understanding of plant record-keeping. The goal of this program is to provide an easy to use system that you can start upon immediately, and as your skills increase, you can wean yourself away from the menus, and use the full power of dBase III Plus and AutoCad to massage your data.

START UP

Copy all Plant Record Tracking/Mapping diskettes into a sub-directory titled "Garden". This includes the dBase and AutoCad diskettes. Load in the drawing file of your garden. Enter the Garden sub-directory and type the command "Garden" and the program will start. The main menu will appear with choices that will lead you through all display, print, plot and edit options that give you a basic plant records system.

The mapping section is the only section where a few words are needed to explain procedure. After adding records (in Edit menu) or deleting records, the choice "Update Graphics" must be chosen to update your map. The program automatically changes over to AutoCad, loads your garden map, and brings the quadrant(s) to the screen so that you may use the cursor to locate the exact position of the addition or deletion. Hit the return key when the position is found, and the operation is performed and you are prompted for the next addition or deletion if there is one. It is necessary to exit (quit) properly as prompted from all sections of this program.

Database structure (fields)

<table>
<thead>
<tr>
<th>Field</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCNUM</td>
<td>CHAR - 6</td>
</tr>
<tr>
<td>FAMILY</td>
<td>CHAR - 25</td>
</tr>
<tr>
<td>GENUS</td>
<td>CHAR - 20</td>
</tr>
<tr>
<td>X</td>
<td>CHAR - 1</td>
</tr>
<tr>
<td>SPECIES</td>
<td>CHAR - 20</td>
</tr>
<tr>
<td>VAR</td>
<td>CHAR - 20</td>
</tr>
<tr>
<td>LOCATION</td>
<td>CHAR - 10</td>
</tr>
<tr>
<td>NATIVITY</td>
<td>CHAR - 20</td>
</tr>
<tr>
<td>SOURCE</td>
<td>CHAR - 30</td>
</tr>
<tr>
<td>UPDATE</td>
<td>DATE - 8</td>
</tr>
<tr>
<td>NOTES</td>
<td>CHAR - 40</td>
</tr>
<tr>
<td>NOTES2</td>
<td>CHAR - 40</td>
</tr>
</tbody>
</table>

The following maps are examples of this programs mapping capabilities.
TOPOGRAPHIC LINES
TREE INSERTIONS
PLANT RECORD TRACKING SYSTEM

When the application is 'booted' the following menu will appear on the screen:

************************************************************

DATE: {automatic}       FRG: MAIN    MDLE: MAIN

************************************************************

MAIN MENU

1. Select and Display Records
2. Select and Print Records
3. Select and Plot Records
4. Editing and File Maintenance
5. End Plant Records Program

************************************************************

SELECT ONE....
It is not necessary to either read or understand the following pages of this manual. They are
provided simply as documentation of the program code and of the interactions of the files
should someone be interested.

OVERALL PROGRAM PROCEDURES

Plant records datafile is PLANTREC.DBF
Garden drawing file is GARDEN.DWG

DOS Command

GARDEN.BAT - Batch file which loads Plant Record Tracking/Mapping System

dBase III Plus Code

1) MAIN.PRG - Main program initiates the whole application, sets up public memory variables,
menus and menu choices.

2) INITIAL.PRG - Sets format of titles, subtitles, and menus.

3) INITIAL.FMT - Format file which creates how the menu screens will appear.

4) DOINDEX.PRG - Reindexes all the index files for the database PLANTREC.DBF.
DOINDEX.PRG is called in from several programs.

5) DISP.PRG - Main menu selection (1). Executes displays of data chosen based on your
selection in the display menu. This includes the following:
   a) Plant Records by a Specific Range of Accession Numbers (DACCNUM.PRG).
   b) Plant Records for All Accession Numbers (DACCALL.PRG)
   c) Plant Records by a Specific Genera (DGENSPEC.PRG).
   d) Plant Records Grouped by Genera (DGENALL.PRG).
   e) Plant Records by Specific Location (DLOCSPEC.PRG).
   f) Plant Records Grouped by Location (DLOCALL.PRG).
   g) Plant Records by Specific Source (DSRCSPEC.PRG).
   h) Plant Records Grouped by Source (DSRCALL.PRG).
   i) Plant Records by Specific Update Date (DUPDATE.PRG).

6) PRINT.PRG - Main menu selection (2). Executes reports of data chosen based on your
selection in the Print menu. This menu includes the following:

   a) Plant Records by a Specific Range of Accession Numbers (PACCNUM.PRG).
   b) Plant Records for All Accession Numbers (PACCALL.PRG)
   c) Plant Records by a Specific Genera (PGENSPEC.PRG).
   d) Plant Records Grouped by Genera (PGENALL.PRG).
   e) Plant Records by Specific Location (PLOCSPEC.PRG).
   f) Plant Records Grouped by Location (PLOCALL.PRG).
   g) Plant Records by Specific Source (PSRCSPEC.PRG).
   h) Plant Records Grouped by Source (PSRCALL.PRG).
   i) Plant Records by Specific Update Date (PUPDATE.PRG).
7) PLOT.PRG - Main menu selection (3). Executes plots of data chosen based on your selection in the Plot menu. This menu includes the following:
   a) Plot Specific Named View (Quadrant) (PLQUAD.PRG).
   b) Plot Complete Garden (PLOTALL.PRG)

8. AUDIT.PRG - Main menu selection (4). Edit and file maintenance menu. This menu includes the following:
   a) Add Plant Records (ADD.PRG).
   b) Find Specific Accession Number to Edit (ACCEDIT.PRG).
   c) Find Specific Plant Record by Latin Name to Edit (GENEDIT.PRG).
   d) Delete Specific Plant Record by Accession Number (RID.PRG).
   e) Backup Plant Records File (BACKUP.PRG).

Associated Index Files:

ACCNDX.NDX - Indexed on Accession Number
GENNDX.NDX - Indexed on Genus and Accession Number
LOCNDX.NDX - Indexed on Location and Accession Number
SCRNDX.NDX - Indexed on Source and Accession Number
UPDNDX.NDX - Indexed on Update date
LATINNDX.NDX - Indexed on Genus & Species & Variety
FAMNDX.NDX - Indexed on Family
NATNDX.NDX - Indexed on Nativity

AutoCad Lisp Code

ACAD.PGP - External Command File
ACAD.LSP - Gathers tree accession numbers and garden location data input into a dBase III Plus data base so that it may be semi-automatically added and deleted to/from the associated garden's graphic data base.
*GARDEN.BAT  Batch file to load dBase Main.prg and Acad drawing file
Copyright (c) David Murbach 1988

echo off
cd \garden
rerun
dbase main
if exist acad.ext goto exit
if exist acad.plt goto plot
if not exist acad.add goto rerun
add
acad garden garden
del acad.add
goto rerun
plot
acad garden gardenp
del acad.plt
goto rerun
:exit
cd \n
echo on
* MAIN.PRG

* MAIN is the main program for the Plant Records Tracking System Application. It is called from the dBASE command level by typing DO MAIN.

Copyright (c) David Murbach 1988

ERASE ACAD.EXT
CLEAR
CLOSE DATABASES
CLOSE INDEX
CLOSE FORMAT
CLOSE PROCEDURE
SET TALK OFF
SET BELL OFF
SELECT 1
USE PLANTREC
STORE 'N' TO UPDTE
STORE 'Y' TO DO
PUBLIC CLIENT, PROGRAM, MODULE, CHOICE, VMARKET, VPRODUCT
PUBLIC SUBTITLE, MENU, SELECTION, SELECT2
STORE 'PLANT RECORD TRACKING SYSTEM' TO SUBTITLE
STORE ' ' TO TITLE
DO WHILE .T.
STORE 'MAIN' TO PROGRAM
STORE 'PLANT RECORD SYSTEM BY BERGSOHN & MURBACH' TO MENU
STORE ' ' TO MODULE
STORE '1. SELECT AND DISPLAY RECORDS' TO CHOICE1
STORE ' ' TO CHOICE2
STORE '2. SELECT AND PRINT RECORDS' TO CHOICE3
STORE ' ' TO CHOICE4
STORE '3. SELECT AND PLOT RECORDS' TO CHOICE5
STORE ' ' TO CHOICE6
STORE '4. EDITING AND FILE MAINTENANCE' TO CHOICE7
STORE ' ' TO CHOICE8
STORE '5. END PLANT RECORDS PROGRAM' TO CHOICE9
STORE ' ' TO CHOICE10
STORE ' ' TO CHOICE11
STORE ' ' TO CHOICE12
STORE ' ' TO CHOICE13
STORE ' ' TO SELECTION
STORE ' ' TO SELECT2
DO INITIAL
DO CASE
CASE SELECTION = "1"
    RELEASE
    CHOICE1, CHOICE2, CHOICE3, CHOICE4, CHOICE5, CHOICE6, CHOICE7, CHOICE8, CHOICE9, CHOICE10, CHOICE11, CHOICE12, CHOICE13
    STORE 'A. Display Plant Records By A Specific Range of Accession #'s ' TO CHOICE1
    STORE 'B. Display ALL Plant Records in Accession Number Order ' TO CHOICE2
    STORE 'C. Display Plant Records By Specific Genera ' TO CHOICE3
STORE 'D. Display ALL Plant Records Grouped By Genera' TO CHOICE4
STORE 'E. Display Plant Record(s) By a Specific Location' TO CHOICE5
STORE 'F. Display ALL Plant Records Grouped by Location' TO CHOICE6
STORE 'G. Display Plant Record(s) By Specific Source' TO CHOICE7
STORE 'H. Display ALL Plant Records Grouped By Source' TO CHOICE8
STORE 'I. Display Plant Record(s) By Specific Update Date' TO CHOICE9
STORE 'J. Return To Main Menu' TO CHOICE10
STORE '' TO CHOICE11
STORE '' TO CHOICE12
STORE '' TO CHOICE13
CASE SELECTION="2"

RELEASE

CHOICE1,CHOICE2,CHOICE3,CHOICE4,CHOICE5,CHOICE6,CHOICE7,CHOICE8,CHOICE9,C
CHOICE10,CHOICE11,CHOICE12,CHOICE13
STORE 'A. Print Plant Records By A Specific Range of Accession #s' TO CHOICE1
STORE 'B. Print ALL Plant Records in Accession Number Order' TO CHOICE2
STORE 'C. Print Plant Records By Specific Genera' TO CHOICE3
STORE 'D. Print ALL Plant Records Grouped By Genera' TO CHOICE4
STORE 'E. Print Plant Record(s) By a Specific Location' TO CHOICE5
STORE 'F. Print ALL Plant Records Grouped by Location' TO CHOICE6
STORE 'G. Print Plant Record(s) By Specific Source' TO CHOICE7
STORE 'H. Print ALL Plant Records Grouped By Source' TO CHOICE8
STORE 'I. Print Plant Record Card By Specific Accession Number' TO CHOICE9
STORE 'J. Print ALL Plant Record Cards' TO CHOICE10
STORE 'K. Print Plant Record Card By Specific Update Date' TO CHOICE11
STORE 'L. Return To Main Menu' TO CHOICE12
STORE '' TO CHOICE13

CASE SELECTION="3"

RELEASE

CHOICE1,CHOICE2,CHOICE3,CHOICE4,CHOICE5,CHOICE6,CHOICE7,CHOICE8,CHOICE9,C
CHOICE10,CHOICE11,CHOICE12,CHOICE13
STORE 'A. Plot Specific Named View' TO CHOICE1
STORE '' TO CHOICE2
STORE 'B. Plot Complete Garden' TO CHOICE3
STORE '' TO CHOICE4
STORE 'C. Highlight Plants of a Specific Family' TO CHOICE5
STORE '' TO CHOICE6
STORE 'D. Highlight Plants of a Specific Genus' TO CHOICE7
STORE '' TO CHOICE8
STORE 'E. Highlight Plants of a Specific Nativity' TO CHOICE9
STORE '' TO CHOICE10
STORE 'F. Highlight Plants of a Specific Range of Accession #s' TO CHOICE11
STORE '' TO CHOICE12
STORE 'G. Return to Main Menu' TO CHOICE13

CASE SELECTION="4"

RELEASE

CHOICE1,CHOICE2,CHOICE3,CHOICE4,CHOICE5,CHOICE6,CHOICE7,CHOICE8,CHOICE9,C
CHOICE10,CHOICE11,CHOICE12,CHOICE13
STORE 'A. Add Plant Records' TO CHOICE1
STORE '' TO CHOICE2
STORE 'B. Find Specific Accession Number To Edit' TO CHOICE3
STORE ' ' TO CHOICE4
STORE 'C. Find Specific Plant Record By Latin Name To Edit' TO CHOICE5
STORE ' ' TO CHOICE6
STORE 'D. Delete Specific Plant Record By Accession Number' TO CHOICE7
STORE ' ' TO CHOICE8
STORE 'E. Back Up Plant Records File (Plantrec.dbf)' TO CHOICE9
STORE ' ' TO CHOICE10
STORE 'F. Update Graphics' TO CHOICE11
STORE ' ' TO CHOICE12
STORE 'G. Return to Main Menu' TO CHOICE13
CASE SELECTION="5"
COPY FILE ACAD.SW TO ACAD.EXT

CASE SELECTION="1"
STORE 'DISPLAY' TO MODULE
STORE 'DISPLAY MENU' TO MENU

CASE SELECTION="2"
STORE 'PRINT MENU' TO MENU
STORE 'PRINT MENU' TO MODULE

CASE SELECTION="3"
STORE 'PLOT MENU' TO MENU
STORE 'PLOT MENU' TO MODULE

CASE SELECTION="4"
STORE 'EDIT' TO MODULE
STORE 'EDIT SUBMENU' TO MENU

CASE SELECTION="5"
COPY FILE ACAD.SW TO ACAD.EXT
RELEASE ALL
CLEAR
CLOSE DATABASE
CLOSE PROCEDURE
CLOSE INDEX
CLOSE FORMAT
QUIT

OTHERWISE
CLEAR
ENDCASE

DO CASE

END
RELEASE
CHOICE1,CHOICE2,CHOICE3,C,CHOICE4,CHOICE5,CHOICE6,CHOICE7,CHOICE8,CHOICE9,
CHOICE10,CHOICE11,CHOICE12
  RELEASE CHOICE13
ENDCASE
IF SELECTION = '1'
  DO INITIAL2
  DO DISP
ENDIF
IF SELECTION = '2'
  DO INITIAL2
  DO PRINT
ENDIF
IF SELECTION = '3'
  DO INITIAL2
  DO PLOT
ENDIF
IF SELECTION = '4'
  DO INITIAL2
  DO AUDIT
ENDIF
RELEASE
SELECTION,SELECT2,CHOICE1,CHOICE2,CHOICE3,CHOICE4,CHOICE5,CHOICE6,CHOICE7,
CHOICE8,CHOICE9,CHOICE10,CHOICE11,CHOICE12
RELEASE CHOICE13
ENDDO
CLEAR
CLOSE PROCEDURE
CLOSE DATABASES
CLOSE INDEX
CLOSE FORMAT
* INITIAL.PRG Sets format of titles, subtitles and menus
*                                                Copyright (c) David Murbach 1988
*******************************************************************************
CLOSE FORMAT
STORE " " TO SELECTION
SET FORMAT TO INITIAL
READ
CLOSE FORMAT
RETURN
* INITIAL.FMT  This file formats the screen for the menus
* Copyright (c) David Murbach 1988

@ 1,0  SAY 'DATE:'
@ 1,6  SAY DATE()
@ 1,18 SAY TITLE
@ 1,45 SAY 'PRG: '
@ 1,50 SAY PROGRAM
@ 1,68 SAY MODULE
@ 2,1  SAY
@ 2,0  SAY

@ 4,5  SAY '**********************************************'
@ 5,5  SAY '10'
@ 5,70 SAY '10'
@ 6,5  SAY '10'
@ 6,20 SAY MENU
@ 6,70 SAY '10'
@ 7,5  SAY '10'
@ 7,70 SAY '10'
@ 8,5  SAY '10'
@ 8,80 SAY CHOICE1
@ 8,70 SAY '10'
@ 9,5  SAY '10'
@ 9,80 SAY CHOICE2
@ 9,70 SAY '10'
@ 10,5 SAY '10'
@ 10,80 SAY CHOICE3
@ 10,70 SAY '10'
@ 11,5 SAY '10'
@ 11,80 SAY CHOICE4
@ 11,70 SAY '10'
@ 12,5 SAY '10'
@ 12,80 SAY CHOICE5
@ 12,70 SAY '10'
@ 13,5 SAY '10'
@ 13,80 SAY CHOICE6
@ 13,70 SAY '10'
@ 14,5 SAY '10'
@ 14,80 SAY CHOICE7
@ 14,70 SAY '10'
@ 15,5 SAY '10'
@ 15,80 SAY CHOICE8
@ 15,70 SAY '10'
@ 16,5 SAY '10'
@ 16,80 SAY CHOICE9
@ 16,70 SAY '10'
@ 17,5 SAY '10'
@ 17,80 SAY CHOICE10
@ 17,70 SAY '10'
@ 18,5 SAY '10'
@ 18,80 SAY CHOICE11
@ 18,70 SAY "1"
@ 19,5 SAY "1"
@ 19,8 SAY CHOICE12
@ 19,70 SAY "1"
@ 20,5 SAY "1"
@ 20,8 SAY CHOICE13
@ 20,70 SAY "1"
@ 21,5 SAY "1"
@ 21,70 SAY "1"
@ 22,5 SAY "***************************************************************************"
@ 23,5 SAY ' SELECT ONE....'
@ 23,30 GET SELECTION
DOINDEX.PRG  Reindexes all the index files for Plantrec.dbf
Copyright (c) David Murbach 1988
***********************************************************
USE PLANTREC
SET INDEX TO ACCNDX,GENNDX,LOCNDX,SRCPNDX,UPDNDX,LATINNDX
REINDEX
* DISP.PRG
  * Executes the different options off the
  * Display Menu depending on which choice
  * is made
  * Copyright (c) David Murbach 1988

******************************************************************************

SET TALK OFF
@3,0 CLEAR
DO WHILE .T.
  DO CASE
    CASE UPPER(SELECT2)='A'
      DO DACCNUM
    CASE UPPER(SELECT2)='B'
      DO DACCALL
    CASE UPPER(SELECT2)='C'
      DO DGENSPEC
    CASE UPPER(SELECT2)='D'
      DO DGENALL
    CASE UPPER(SELECT2)='E'
      DO DLOCSPEC
    CASE UPPER(SELECT2)='F'
      DO DLOCAL
    CASE UPPER(SELECT2)='G'
      DO DSRCSPEC
    CASE UPPER(SELECT2)='H'
      DO DSRCALL
    CASE UPPER(SELECT2)='I'
      DO DUPDATE
      OTHERWISE
    RETURN
  ENDCASE
STORE '' TO SELECT2
CLOSE DATABASES
CLOSE FORMAT
ENDDO
@ 3,0 CLEAR
RETURN
* DACCNUM.PRG  Display for Accession Numbers Range
* Called from DISPLAY.PRG
* Copyright (c) David Murbach 1988
------------------------------------------------------------------------
SET HEADING OFF
SET BELL OFF
SET TALK OFF
SET INTENSITY ON
@ 1,50 SAY 'DACCNUM.PRG'
@ 3,0 CLEAR
CLOSE DATABASE
STORE 'Y' TO UPDTE
DO WHILE _UPPER(UPDTE) <> 'N'
  STORE 'Y' TO UPDTE
  @ 3,0 CLEAR
  @ 5,5 SAY 'This option displays Plant Records by a specific range'
  @ 6,5 SAY 'of Accession Numbers. Please enter Y to continue or N'
  @ 7,5 SAY 'to return to the Main Menu: ' GET UPDTE
  READ
  IF UPPER(UPDTE) <> 'Y'
    CLOSE DATABASE
    RELEASE ALL EXCEPT UPDTE
    RETURN
  ENDIF
  @ 3,0 CLEAR
STORE SPACE(6) TO VACCNUM1
STORE SPACE(6) TO VACCNUM2
@ 3,0 CLEAR
@ 4,1 SAY 'ENTER LOWER ACCESSION NUMBER IN RANGE: ' GET VACCNUM1
@ 5,1 SAY 'ENTER HIGHER ACCESSION NUMBER IN RANGE: ' GET VACCNUM2
READ
CLEAR
DO DOINDEX
SET FILTER TO ACCNUM>=VACCNUM1 .AND. ACCNUM<=VACCNUM2
GOTO TOP
STORE 0 TO LINECNT
? " DATA DISPLAY BY ACCESSION NUMBER ORDER"
? " ACCNUM LOCATION"
? " LATIN NAME"
STORE (LINECNT+5) TO LINECNT
DO WHILE .NOT. EOF()
  ? ACCNUM+SPACE(3)+LOCATION
  SPACE(4)+TRIM(GENUS)+SPACE(1)+TRIM(SPECIES)+SPACE(1)+TRIM(RANK)+SPACE(1)+TRIM(SUBSP)
STORE (LINECNT+2) TO LINECNT
SKIP
IF LINECNT >= 22
  WAIT
@ 0,0 CLEAR
STORE 0 TO LINECNT
? "DATA DISPLAY BY ACCESSION ORDER"
?
?" ACCNUM LOCATION"
?" LATIN NAME"
?
STORE (LINECNT+5) TO LINECNT
ENDIF
ENDDO
WAIT
ENDDO
RELEASE ALL
@ 0,0 CLEAR
CLOSE DATABASE
RETURN
SET HEADING OFF
SET TALK OFF
SET BELL OFF
SET INTENSITY ON
@ 1,50 SAY 'DACCALL '
@ 3,0 CLEAR
CLOSE DATABASE
STORE 'Y' TO UPDTE
STORE 0 TO LINECNT

@ 3,0 CLEAR
@ 5,5 SAY 'This option produces a display of all Plant Records '
@ 6,5 SAY 'sorted by Accession Number. Please enter Y to continue'
@ 7,5 SAY 'or N to return to the Main Menu: ' GET UPDTE
READ
CLEAR
IF UPPER(UPDTE) <> 'Y'
CLOS DATABASE
RELEASE ALL EXCEPT UPDTE
RETURN
ENDIF
USE PLANTREC INDEX ACCNDX
GOTO TOP
STORE 0 TO LINECNT
@ 0,0 CLEAR
?
'SPACE(10) + 'ALL PLANT RECORDS SORTED BY ACCESSION NUMBER'
?
'* ACCNUM LOCATION'
'* LATIN NAME '
?
STORE (LINECNT + 6) TO LINENCNT
DO WHILE NOT. EOF()
? ACCNUM+SPACE(3)+LOCATION
?
SPACE(4)+TRIM(GENUS)+SPACE(1)+TRIM(SPECIES)+SPACE(1)+TRIM(RANK)+SPACE(1)+TR
RIM(SUBSP)
STORE (LINECNT + 2) TO LINECNT
SKIP
IF LINECNT >= 22
WAIT
@ 0,0 CLEAR
STORE 0 TO LINECNT
?
'SPACE(10) + 'ALL PLANT RECORDS SORTED BY ACCESSION NUMBER'
?
'* ACCNUM LOCATION'
'* LATIN NAME 
STORE (LINECNT + 6) TO LINECNT
ENDIF
ENDDO
WAIT
RELEASE ALL
CLOSE DATABASE
RETURN
DO WHILE UPPER(UPDTE) <> 'N'
  STORE 'Y' TO UPDTE
  @ 3,0 CLEAR
  @ 5,5 SAY 'This option displays Plant Records by a specific genus'
  @ 6,5 SAY 'Please enter Y to continue or N to return to the Main Menu: '
  GET UPDTE
  READ
  IF UPPER(UPDTE) <> 'Y'
    CLOSE DATABASE
    RELEASE ALL EXCEPT UPDTE
    RETURN
  ENDIF
  STORE SPACE(20) TO VGENUS
  @ 3,0 CLEAR
  @ 4,1 SAY 'ENTER SPECIFIC GENERA TO PRINT: '
  GET VGENUS
  READ
  CLEAR
  USE PLANTREC INDEX GENNDX
  SET FILTER TO GENUS=UPPER(VGENUS)
  GOTO TOP
  @ 0,0 CLEAR
  STORE 0 TO LINECNT
  ?
  "DATA DISPLAY BY GENUS"
  ?
  "ACCNUM LOCATION"
  ? "LATIN NAME"
  ?
  "GENUS: " + VGENUS
  ?
  STORE (LINECNT+8) TO LINECNT
  DO WHILE .NOT. EOF()
    ? ACCNUM+SPACE(4)+LOCATION
    ? SPACE(4)+TRIM(GENUS)+SPACE(1)+TRIM(SPECIES)+SPACE(1)+TRIM(RANK)+SPACE(1)+TRIM(SUBSP)
    SKIP
    STORE (LINECNT+2) TO LINECNT
  IF LINECNT >= 22
    WAIT
@ 0,0 CLEAR
STORE 0 TO LINECNT
?
? SPACE(20) + "DATA DISPLAY BY GENUS"
?
?"ACCNUM LOCATION"
?
?"LATIN NAME"
?
STORE (LINECNT+6) TO LINECNT
ENDIF
ENDDO
WAIT
ENDDO
RELEASE ALL
@ 0,0 CLEAR
CLOSE DATABASE
RETURN
* DGENALL.PRG DISPLAYS all plant records grouped by genus
* Called from DISPLAY.PRG
* Copyright (c) David Murbach 1988

SET HEADING OFF
SET TALK OFF
SET BELL OFF
SET INTENSITY ON
@ 1,50 SAY 'DGENALL'
@ 3,0 CLEAR
CLOSE DATABASE
STORE 'Y' TO UPDTE
STORE 0 TO LINECNT
@ 3,0 CLEAR
@ 5,5 SAY 'This option produces a display of all plant records'
@ 6,5 SAY 'grouped by genus. Please enter Y to continue or N'
@ 7,5 SAY 'to return to the Main Menu.' GET UPDTE
READ
IF UPPER(UPDTE) <> 'Y'
    CLOSE DATABASE
    RELEASE ALL EXCEPT UPDTE
    RETURN
ENDIF
STORE SPACE(25) TO VGENUS
USE PLANTREC INDEX GENNDX,ACCNDX
GOTO TOP
STORE RECCOUNT() TO RECORDS
STORE 0 TO NUMREC
@ 0,0 CLEAR
STORE 0 TO LINECNT
? SPACE(20) + 'ALL PLANT RECORDS BY SPECIFIC GENUS'
?
? "ACCNUM LOCATION"
? "Latin Name"
STORE (LINECNT + 4) TO LINENCNT
DO WHILE .NOT. EOFO
    STORE GENUS TO VGENUS
    ? "GENUS: .." + GENUS
    ?
    STORE (LINECNT + 3) TO LINECNT
    DO WHILE GENUS = VGENUS
        ? ACCNUM + SPACE(3) + LOCATION
    ?
    SPACE(4) + TRIM(GENUS) + SPACE(1) + TRIM(SPECIES) + SPACE(1) + TRIM(RANK) + SPACE(1) + TRIM(SUBSP)
    STORE (LINECNT + 2) TO LINECNT
    STORE (NUMREC + 1) TO NUMREC
    SKIP
    IF LINECNT >= 18
        WAIT
@ 0,0 CLEAR
STORE 0 TO LINECNT
? SPACE(20) + 'ALL PLANT RECORDS BY SPECIFIC GENUS'
?
? "ACCMNUM  LOCATION"
? " LATIN NAME"
STORE (LINECNT + 4) TO LINECNT
ENDIF
ENDDO
DO WHILE NUMREC = RECORDS
WAIT
STORE (NUMREC + 1) TO NUMREC
ENDDO
ENDDO
@ 0,0 CLEAR
RELEASE ALL
CLOSE DATABASE
RETURN
SET HEADING OFF
SET BELL OFF
SET TALK OFF
SET INTENSITY ON
@ 1,50 SAY 'DLOCSPEC.PRG'
@ 3,0 CLEAR
CLOSE DATABASE
STORE 'Y' TO UPDTE
DO WHILE UPPER(UPDTE) <> 'N'
STORE 'Y' TO UPDTE
@ 3,0 CLEAR
@ 5,5 SAY 'This option displays Plant Records by a specific location'
@ 6,5 SAY 'Please enter Y to continue or N to return to the Main Menu: ' GET UPDTE
READ
IF UPPER(UPDTE) <> 'Y'
CLOSE DATABASE
RELEASE ALL EXCEPT UPDTE
RETURN
ENDIF
STORE SPACE(7) TO VLOCATION
@ 3,0 CLEAR
@ 4,1 SAY 'ENTER SPECIFIC LOCATION TO PRINT: ' GET VLOCATION
READ
CLEAR
USE PLANTREC INDEX LOCNDX
SET FILTER TO LOCATION=UPPER(VLOCATION)
GOTO TOP
@ 0,0 CLEAR
STORE 0 TO LINECNT
?
? " PLANT RECORDS BY SPECIFIC LOCATION "
?
? "LOCATION: " + VLOCATION
?
? "ACCNUM LATIN NAME "
?
STORE (LINECNT+7) TO LINECNT
DO WHILE .NOT. EOF()
ACCNUM+SPACE(1)+TRIM(Genus)+SPACE(1)+TRIM(Species)+SPACE(1)+TRIM(Rank)+SPACE(1)+TRIM(Subsp)
STORE (LINECNT + 1) TO LINECNT
SKIP
IF LINECNT >= 22
WAIT
@ 0,0 CLEAR
STORE 0 TO LINECNT
? SPACE(20) + "PLANT RECORDS BY SPECIFIC LOCATION"
?
?"LOCATION: " + VLOCATION
?
?"ACCNUM   LATIN NAME"
?
STORE (LINECNT+7) TO LINECNT
ENDIF
ENDDO
WAIT
ENDDO
RELEASE ALL
@ 0,0 CLEAR
CLOSE DATABASE
RETURN
* DLOCALL.PRG  DISPLAYS all plant record Grouped by Location
* Called from DISPLAY.PRG
* Copyright (c) David Murbach 1988

SET HEADING OFF
SET TALK OFF
SET BELL OFF
SET INTENSITY ON
@ 1,50 SAY 'DLOCALL '
@ 3,0 CLEAR
CLOSE DATABASE
STORE 'Y' TO UPDTE
STORE 0 TO LINECNT
@ 3,0 CLEAR
@ 5,5 SAY 'This option produces a display of all Plant Records '
@ 6,5 SAY 'grouped by Location. Please enter Y to continue or N'
@ 7,5 SAY 'to return to the Main Menu: ' GET UPDTE
READ
IF UPPER(UPDTE) <> 'Y'
  CLOSE DATABASE
  RELEASE ALL EXCEPT UPDTE
  RETURN
ENDIF
STORE SPACE(20) TO VLOCATION
USE PLANTREC INDEX LOCNDX,ACCNDX
GOTO TOP
STORE RECOUNT() TO RECORDS
STORE 0 TO NUMREC
@ 0,0 CLEAR
STORE 0 TO LINECNT
?
? SPACE(20) + 'ALL PLANT RECORDS BY SPECIFIC LOCATION'
?
? "ACCNUM   LATIN NAME"
?
STORE (LINECNT + 5) TO LINENCNT
DO WHILE .NOT. EOF()
  STORE LOCATION TO VLOCATION
  ?
  "LOCATION: " + LOCATION
  ?
  STORE (LINECNT+3) TO LINENCNT
  DO WHILE LOCATION = VLOCATION
  ACCNUM+SPACE(3)+TRIM(GENUS)+SPACE(1)+TRIM(SPECIES)+SPACE(1)+TRIM(RANK)+S
  PACE(1)+TRIM(SUBSP)
  STORE (LINECNT + 1) TO LINECNT
  STORE (NUMREC + 1) TO NUMREC
  SKIP
  IF LINECNT >= 18
    WAIT
@ 0,0 CLEAR
STORE 0 TO LINECNT
?
? SPACE(20) + 'ALL PLANT RECORDS BY SPECIFIC LOCATION'
?
? "ACCNUM   LATIN NAME"
?
STORE (LINECNT + 5) TO LINECNT
ENDIF
ENDDO
DO WHILE NUMREC = RECORDS
WAIT
STORE (NUMREC + 1) TO NUMREC
ENDDO
ENDDO
@ 0,0 CLEAR
RELEASE ALL
CLOSE DATABASE
RETURN
DSRCSPEC.PRG  DISPLAY for Specific Source
Called from DISPLAY.PRG
Copyright (c) David Murbach 1988

SET HEADING OFF
SET BELL OFF
SET TALK OFF
SET INTENSITY ON
@ 1,50 SAY 'DSRCSPEC.PRG'
@ 3,0 CLEAR
CLOSE DATABASE
STORE 'Y' TO UPDTE
DO WHILE UPPER(UPDTE) <> 'V'
STORE 'Y' TO UPDTE
@ 3,0 CLEAR
@ 5,5 SAY 'This option displays Plant Records by a specific source'
@ 6,5 SAY 'Please enter Y to continue or N to return to the Main Menu: ' GET UPDTE
READ
IF UPPER(UPDTE) <> 'Y'
CLOSE DATABASE
RELEASE ALL EXCEPT UPDTE
RETURN
ENDIF
@ 3,0 CLEAR
STORE SPACE(30) TO VSOURCE
@ 4,1 SAY 'ENTER SPECIFIC SOURCE TO PRINT: ' GET VSOURCE
READ
CLEAR
USE PLANTREC INDEX SRCNDX
GOTO TOP
GOTO TOP
STORE 0 TO LINECNT
@ 0,0 CLEAR
DATA DISPLAY BY SOURCE *
?
"ACCNUM  LOCATION"
"LATIN NAME "
"SOURCE: " + VSOURCE
?
STORE (LINECNT+7) TO LINECNT
DO WHILE .NOT. EOF()
? ACCNUM+SPACE(4)+LOCATION
SPACE(4)+TRIM(GENUS)+SPACE(1)+TRIM(SPECIES)+SPACE(1)+TRIM(RANK)+SPACE(1)+TRIM(SUBSP)
SKIP
STORE (LINECNT+2) TO LINECNT
IF LINECNT >= 20
WAIT
@ 0,0 CLEAR
STORE 0 TO LINECNT
?
? SPACE(20) + "DATA DISPLAY BY SOURCE"
?
?"ACCNUM  LOCATION"
?" LATIN NAME"
?
?"SOURCE: " + VSOURCE
?
STORE (LINCNT+8) TO LINCNT
ENDIF
ENDDO
WAIT
ENDDO
RELEASE ALL
@ 0,0 CLEAR
CLOSE DATABASE
RETURN
* DSRCALL.PRG   DISPLAYS all plant record Grouped by Source
* Called from DISPLAY.PRG
* Copyright (c) David Murbach 1988

**********************************************************
SET HEADING OFF
SET TALK OFF
SET BELL OFF
SET INTENSITY ON
@ 1,50 SAY 'DSRCALL '
@ 3,0 CLEAR
CLOSE DATABASE
STORE 'Y' TO UPDTE
STORE 0 TO UNECNT
@ 3,0 CLEAR
@ 5,5 SAY 'This option produces a display of all Plant Records'
@ 6,5 SAY 'grouped by Source. Please enter Y to continue or N'
@ 7,5 SAY 'to return to the Main Menu: ' GET UPDTE
READ
IF UPPER(UPDTE) <> 'Y'
   CLOSE DATABASE
   RELEASE ALL EXCEPT UPDTE
   RETURN
ENDIF
STORE SPACE(30) TO VSOURCE
USE PLANTREC INDEX SRCNDX,ACCNDX
GOTO TOP
STORE RECCOUNT() TO RECORDS
STORE 0 TO NUMREC
@ 0,0 CLEAR
STORE 0 TO LINECNT
? SPACE(20) + 'ALL PLANT RECORDS BY SPECIFIC SOURCE'
? "ACCNUM LOCATION"
? " LATIN NAME 
STORE (LINECNT + 4) TO LINENCNT
DO WHILE .NOT. EOFO
STORE SOURCE TO VSOURCE
? SOURCE + SPACE(3)+LOCATION
STORE (LINECNT+3) TO LINECNT
DO WHILE SOURCE = VSOURCE
? ACCNUM+SPACE(3)+LOCATION
STORE (LINECNT + 2) TO LINECNT
STORE (NUMREC + 1) TO NUMREC
SKIP
IF LINECNT >= 18
   WAIT
@ 0,0 CLEAR
STORE 0 TO LINECNT
? SPACE(20) + 'ALL PLANT RECORDS BY SPECIFIC SOURCE'
?
? "ACCNUM LOCATION"
? "LATÍN NAME"
STORE (LINECNT + 4) TO LINECNT
ENDIF
ENDDO
DO WHILE NUMREC = RECORDS
WAIT
STORE (NUMREC + 1) TO NUMREC
ENDDO
ENDDO
@ 0,0 CLEAR
RELEASE ALL
CLOSE DATABASE
RETURN
* DUPDATE.PRG  Display for Specific Update date
*  Called from DISPLAY.PRG
*  Copyright (c) David Murbach 1988

SET HEADING OFF
SET BELL OFF
SET TALK OFF
SET INTENSITY ON
@ 1,50 SAY 'DUPDATE.PRG'
@ 3,0 CLEAR
CLOSE DATABASE
STORE 'Y' TO UPDTE
DO WHILE UPPER(UPDTE) <> 'N'
  SET DEVICE TO SCREEN
  SET PRINT OFF
  STORE 'Y' TO UPDTE
  @ 3,0 CLEAR
  @ 5,5 SAY 'This option displays Plant Records by a specific update date:'
  @ 6,5 SAY 'Please enter Y to continue or N to return to the Main Menu:'  GET UPDTE
  READ
  IF UPPER(UPDTE) <> 'Y'
    CLOSE DATABASE
    RELEASE ALL EXCEPT UPDTE
    SET DEVICE TO SCREEN
    SET PRINT OFF
    RETURN
  ENDIF
  STORE CTOD('01/01/00') TO VUPDATE
  STORE DTOC(VUPDATE) TO VUPCHAR
  USE PLANTREC INDEX UPDNDX,ACCNDX
  GOTO TOP
  @ 0,0 CLEAR
  DATA DISPLAY BY UPDATE DATE
  ?
  ? "UPDATE DATE: "+ VUPCHAR
  ?
  ? "ACCNUM LOCATION"
  ? "LATIN NAME"
  ?
  DISPLAY ALL OFF
  ACCNUM+SPACE(4)+LOCATION+SPACE(63)+SPACE(3)+TRIM(GENUS)+SPACE(1)+TRIM(SPECIES)+SPACE(1)+TRIM(RANK)+SPACE(1)+TRIM(SUBSP) FOR UPDATE=VUPDATE
  IF EOF()
    ??
  ??
  WAIT
  SET DEVICE TO SCREEN
SET PRINT OFF
@ 0,0 CLEAR
RELEASE ALL EXCEPT UPDTE
RETURN
ENDIF
STORE 'Y' TO UPDTE
ENDDO
RELEASE ALL
@ 0,0 CLEAR
CLOSE DATABASE
RETURN
SET TALK OFF
@3,0 CLEAR
DO WHILE .T.
DO CASE
    CASE UPPER(SELECT2)=''A''
        DO PACCNUM
    CASE UPPER(SELECT2)=''B''
        DO PACCALL
    CASE UPPER(SELECT2)=''C''
        DO PGENSPEC
    CASE UPPER(SELECT2)=''D''
        DO PGENALL
    CASE UPPER(SELECT2)=''E''
        DO PLOCSPEC
    CASE UPPER(SELECT2)=''F''
        DO PLOCAL
    CASE UPPER(SELECT2)=''G''
        DO PSRCSPEC
    CASE UPPER(SELECT2)=''H''
        DO PSRCALL
    CASE UPPER(SELECT2)=''I''
        DO PUTDATE
    CASE UPPER(SELECT2)=''J''
        DO ACCARD
    CASE UPPER(SELECT2)=''K''
        DO ALLCARD
    OTHERWISE
        RETURN
    END CASE
STORE '' TO SELECT2
CLOSE DATABASES
CLOSE FORMAT
ENDDO
@ 3,0 CLEAR
RETURN
DATA DISPLAY BY ACCESSION NUMBER ORDER

ORDER:  
PACCNUMPRG Print for Accession Numbers Range
Called from PRINT.PRG
Copyright (c) David Murbach 1988

******************************************************************************

SET HEADING OFF
SET BELL OFF
SET TALK OFF
SET INTENSITY ON
@ 1,50 SAY 'PACCNUMPRG'
@ 3,0 CLEAR
CLOSE DATABASE
STORE 'Y' TO UPDTE
DO WHILE UPPER(UPDTE) <> 'N'
  SET DEVICE TO SCREEN
  SET PRINT OFF
  STORE 'Y' TO UPDTE
  @ 3,0 CLEAR
  @ 5,5 SAY 'This option print Plant Records by a specific range'
  @ 6,5 SAY 'of Accession Numbers. Please enter Y to continue or N'
  @ 7,5 SAY 'to return to the Main Menu: ' GET UPDTE
  READ
  IF UPPER(UPDTE) <> 'Y'
    CLOSE DATABASE
    RELEASE ALL EXCEPT UPDTE
    SET DEVICE TO SCREEN
    SET PRINT OFF
    RETURN
  ENDIF
  @ 3,0 CLEAR
  STORE SPACE(6) TO VACCNUM1
  STORE SPACE(6) TO VACCNUM2
  @ 3,0 CLEAR
  @ 4,1 SAY 'ENTER LOWER ACCESSION NUMBER IN RANGE: ' GET VACCNUM1
  @ 5,1 SAY 'ENTER HIGHER ACCESSION NUMBER IN RANGE.' GET VACCNUM2
  READ
  CLEAR
  SET PRINT ON
  SET DEVICE TO PRINT
  SET MARGIN TO 6
  DO DOINDEX
  SET FILTER TO ACCNUM>='VACCNUM1.AND. ACCNUM<='VACCNUM2
  GOTO TOP
  DATA DISPLAY BY ACCESSION NUMBER ORDER*
  STORE 0 TO LINECNT
  @
  STORE LINECNT+6 TO LINECNT
  DO WHILE .NOT. EOF()}
DATA DISPLAY BY ACCESSION ORDER

STORE (LINECNT + 2) TO LINECNT
SKIP
IF LINECNT >= 54
  EJECT
  STORE 0 TO LINECNT
ENDIF.
ENDDO
ENDDO
RELEASE ALL
EJECT
SET PRINT OFF
SET DEVICE TO SCREEN
@ 0,0 CLEAR
CLOSE DATABASE
RETURN
PACCALL.PRG PRINTS all plant records by accession number
Called from PRINT.PRG
Copyright (c) David Murbach 1988

SET HEADING OFF
SET TALK OFF
SET BELL OFF
SET INTENSITY ON
@ 1,50 SAY 'PACCALL '
@ 3,0 CLEAR
CLOSE DATABASE
STORE 'Y' TO UPDTE
STORE 0 TO LINECNT
@ 3,0 CLEAR
@ 5,5 SAY 'This option produces a prints of all Plant Records '
@ 6,5 SAY 'sorted by Accession Number. Please enter Y to continue'
@ 7,5 SAY 'or N to return to the Main Menu: ' GET UPDTE
READ
IF UPPER(UPDTE) <> 'Y'
  CLOSE DATABASE
  RELEASE ALL EXCEPT UPDTE
  SET DEVICE TO SCREEN
  SET PRINT OFF
  RETURN
ENDIF
@ 3,0 CLEAR
USE PLANTREC INDEX ACCNDX-
GOTO TOP
SET PRINT ON
SET DEVICE TO PRINT
SET MARGIN TO 6
STORE 0 TO LINECNT
@ 0,0 CLEAR
?
SPACE(15) + 'ALL PLANT RECORDS SORTED BY ACCESSION NUMBER'
?
"ACCNUM LOCATION"
? "LATIN NAME"
STORE (LINECNT + 5) TO LINENCNT
DO WHILE .NOT. EOF()
  ? ACCNUM+SPACE(3)+LOCATION
  SPACE(4)+TRIM(GENUS)+SPACE(1)+TRIM(SPECIES)+SPACE(1)+TRIM(RANK)+SPACE(1)+TRIM(SUBSP)
  STORE (LINECNT + 2) TO LINECNT
  SKIP
  IF LINECNT => 50
  ? CHR(12) STORE 0 TO LINECNT
  @ 0,0 CLEAR
  ?
  SPACE(20) + 'ALL PLANT RECORDS SORTED BY ACCESSION NUMBER'
* PGENSPEC.PRG  PRINT for Specific Genera
* Called from PRINT.PRG
* Copyright (c) David Murbach 1988

SET HEADING OFF
SET BELL OFF
SET TALK OFF
SET INTENSITY ON
@ 1,50 SAY 'PGENSPEC.PRG'
@ 3,0 CLEAR
CLOSE DATABASE
STORE 'Y' TO UPDTE
DO WHILE UPPER(UPDTE) <> 'W'
    SET DEVICE TO SCREEN
    SET PRINT OFF
    STORE 'Y' TO UPDTE
    @ 3,0 CLEAR
    @ 5,5 SAY 'This option prints Plant Records by a specific genera'
    @ 6,5 SAY 'Please enter Y to continue or N to return to the Main Menu: ' GET UPDTE
READ
IF UPPER(UPDTE) <> 'Y'
    CLOSE DATABASE
    RELEASE ALL EXCEPT UPDTE
    SET DEVICE TO SCREEN
    SET PRINT OFF
    RETURN
ENDIF
STORE SPACE(20) TO VGENUS
@ 3,0 CLEAR
@ 4,1 SAY 'ENTER SPECIFIC GENERA TO PRINT: ' GET VGENUS
READ
CLEAR
USE PLANTREC INDEX GENNDX
SET FILTER TO GENUS=UPPER(VGENUS)
GOTO TOP
SET PRINT ON
SET DEVICE TO PRINT
SET MARGIN TO 6
STORE 0 TO LINECNT
?
? "DATA DISPLAY BY GENUS"
? "
? "ACCNUM LOCATION"
? " LATIN NAME"
? "
? "GENUS: " + VGENUS
? "
STORE (LINECNT+8) TO LINECNT
DO WHILE .NOT. EOF()
? ACCNUM+SPACE(4)+LOCATION
SPACE(4)+TRIM(GENUS)+SPACE(1)+TRIM(SPECIES)+SPACE(1)+TRIM(RANK)+SPACE(1)+TRIM(SUBSP)
SKIP
STORE (LINECNT+2) TO LINECNT
IF LINECNT >= 54
  EJECT
  STORE 0 TO LINECNT
? SPACE(20) + "DATA DISPLAY BY GENUS"
? "ACCNUM LOCATION"
? "LATIN NAME"
? STORE (LINECNT+6) TO LINECNT
ENDIF
ENDDO
ENDDO
EJECT
SET PRINT OFF
SET DEVICE TO SCREEN
RELEASE ALL
@ 0,0 CLEAR
CLOSE DATABASE
RETURN
* PGENALL.PRG PRINTS all plant record Grouped by Genera
* Called from PRINT.PRG
* Copyright (c) David Murbach 1988

SET HEADING OFF
SET TALK OFF
SET BELL OFF
SET INTENSITY ON
@ 1,50 SAY 'PGENALL '
@ 3,0 CLEAR
CLOSE DATABASE
STORE 'Y' TO UPDTE
STORE 0 TO LINECNT
@ 3,0 CLEAR
@ 5,5 SAY 'This option produces a prints of all Plant Records '
@ 6,5 SAY 'grouped by Genera. Please enter Y to continue or N'
@ 7,5 SAY 'to return to the Main Menu: ' GET UPDTE
READ
IF UPPER(UPDTE) <> 'Y'
   CLOSE DATABASE
   RELEASE ALL EXCEPT UPDTE
   SET DEVICE TO SCREEN
   SET PRINT OFF
   RETURN
ENDIF
@3,0 CLEAR
STORE SPACE(20) TO VGENUS~
USE PLANTREC INDEX GENNDX,ACCNDX
GOTO TOP
SET PRINT ON
SET DEVICE TO PRINT
SET MARGIN TO 6
STORE 0 TO LINECNT
?
? SPACE(20) + 'ALL PLANT RECORDS BY SPECIFIC GENERA'
?
? "ACCNUM LOCATION"
? " LATIN NAME "
STORE (LINECNT + 5) TO LINENCNT
DO WHILE NOT. EOF()
   STORE GENUS TO VGENUS
   ?
   ? *GENUS: " + GENUS
   *
   STORE (LINECNT + 3) TO LINENCNT
   DO WHILE GENUS = VGENUS
   ? ACCNUM+SPACE(3)+LOCATION
SPACE(4)+TRIM(GENUS)+SPACE(1)+TRIM(SPECIES)+SPACE(1)+TRIM(RANK)+SPACE(1)+TRIM(SUBSP)
STORE (LINECNT + 2) TO LINENCNT
SKIP
IF LINECNT >= 50
  ? CHR(12) STORE 0 TO LINECNT
 ?
? SPACE(20) + 'ALL PLANT RECORDS BY SPECIFIC GENERA'
?
? "ACCNUM LOCATION"
? "LATIN NAME"
STORE (LINECNT + 5) TO LINECNT
ENDIF
ENDDO
ENDDO
EJECT
SET PRINT OFF
SET DEVICE TO SCREEN
@0,0 CLEAR
RELEASE ALL
CLOSE DATABASE
RETURN
STORE (LINECNT + 1) TO LINECNT
SKIP
IF LINECNT >= 54
    EJECT
STORE 0 TO LINECNT
?
? SPACE(20) + "PLANT RECORDS BY SPECIFIC LOCATION"
?
?"LOCATION: " + VLOCATION
?
?"ACCNUM   LATIN NAME"
?
STORE (LINECNT+7) TO LINECNT
ENDIF
ENDDO
EJECT
SET DEVICE TO SCREEN
SET PRINT OFF
ENDDO
RELEASE ALL
@ 0,0 CLEAR
CLOSE DATABASE
RETURN
SET HEADING OFF
SET TALK OFF
SET BELL OFF
SET INTENSITY ON
@ 1,50 SAY 'PLOCAL·'
@ 3,0 CLEAR
CLOSE DATABASE
STORE 'Y' TO UPDTE
STORE 0 TO UNECNT
@ 3,0 CLEAR
@ 5,5 SAY "This option produces a prints of all Plant Records '
@ 6,5 SAY "grouped by Location. Please enter Y to continue or N'
@ 7,5 SAY "to return to the Main Menu: ' GET UPDTE
READ
IF UPPER(UPDTE) <> 'Y'
    CLOSE DATABASE
    RELEASE ALL EXCEPT UPDTE
    SET DEVICE TO SCREEN
    SET PRINT OFF
    RETURN
ENDIF
@ 3,0 CLEAR
STORE SPACE(20) TO VLOCATION
USE PLANTREC INDEX LOCNDX,ACCNDX
GOTO TOP
SET DEVICE TO PRINT
SET MARGIN TO 6
@ 0,0 CLEAR
STORE 0 TO LINCNT
?
? SPACE(20) + 'ALL PLANT RECORDS BY SPECIFIC LOCATION'
?
? "ACCNUM * LATIN NAME"
STORE (LINECNT + 4) TO LINENCNT
DO WHILE .NOT. EOFO
    STORE LOCATION TO VLOCATION
    ?
    ? "LOCATION: " + LOCATION
    ?
    STORE (LINECNT + 3) TO LINECNT
ENDO
ACCNUM+SPACE(3)+TRIM(GENUS)+SPACE(1)+TRIM(SPECIES)+SPACE(1)+TRIM(RANK)+SPACE(1)+TRIM(SUBSP)
STORE (LINECNT + 1) TO LINECNT
SKIP
IF LINECNT >= 50
  ? CHR(12) STORE 0 TO LINECNT
  ?
  ? SPACE(20) + 'ALL PLANT RECORDS BY SPECIFIC LOCATION'
  ?
  ? "ACCNUM  LATIN NAME" STORE (LINECNT + 4) TO LINECNT
ENDIF
ENDDO
ENDDO
EJECT
SET PRINT OFF
SET DEVICE TO SCREEN
@ 0,0 CLEAR
RELEASE ALL
CLOSE DATABASE
RETURN
SET HEADING OFF
SET BELL OFF
SET TALK OFF
SET INTENSITY ON
@ 1,50 SAY 'PSRCSPEC.PRG'
@ 3,0 CLEAR
CLOSE DATABASE
STORE 'Y' TO UPDTE
DO WHILE UPPER(UPDTE) <> 'N'
   SET DEVICE TO SCREEN
   SET PRINT OFF
   STORE 'Y' TO UPDTE
   @ 3,0 CLEAR
   @ 5,5 SAY 'This option print Plant Records by a specific source'
   @ 6,5 SAY 'Please enter Y to continue or N to return to the Main Menu: ' GET UPDTE
   READ
   IF UPPER(UPDTE) <> 'Y'
      CLOSE DATABASE
      RELEASE ALL EXCEPT UPDTE
      SET DEVICE TO SCREEN
      SET PRINT OFF
      RETURN
   ENDIF
   @ 3,0 CLEAR
   STORE SPACE(30) TO VSOURCE
   @ 4,1 SAY 'ENTER SPECIFIC SOURCE TO PRINT: ' GET VSOURCE
   READ
   USE PLANTREC INDEX SRCNDX
   GOTO TOP
   SET FILTER TO SOURCE=UPPER(VSOURCE)
   SET PRINT ON
   SET DEVICE TO PRINT
   SET MARGIN TO 6
   STORE 0 TO LINECNT
   @ 0,0 CLEAR
   DATA DISPLAY BY SOURCE *
   ?
   ?" ACCNUM LOCATION"
   ?" LATIN NAME *
   ?" *
   ?"SOURCE: " + VSOURCE
   ?
   STORE (LINECNT+7) TO LINECNT
   DO WHILE .NOT. EOF()
      ? ACCNUM+SPACE(4)+LOCATION
* PSRCALL.PRG PRINTS all plant records grouped by source
* Called from PRINT.PRG
* Copyright (c) David Murbach 1988

SET HEADING OFF
SET TALK OFF
SET BELL OFF
SET INTENSITY ON
@ 1,50 SAY 'PSRCALL'
@ 3,0 CLEAR
CLOSE DATABASE
STORE 'Y' TO UPDTE
STORE 0 TO LINECNT
@ 3,0 CLEAR
@ 5,5 SAY 'This option produces a print of all Plant Records'
@ 6,5 SAY 'grouped by Source. Please enter Y to continue or N'
@ 7,5 SAY 'to return to the Main Menu.' GET UPDTE
READ
IF UPPER(UPDTE) <> 'Y'
    CLOSE DATABASE
    RELEASE ALL EXCEPT UPDTE
    SET DEVICE TO SCREEN
    SET PRINT OFF
    RETURN
ENDIF
@ 3,0 CLEAR
STORE SPACE(20) TO VSOURCE.
USE PLANTREC INDEX SRCNDX,ACCNDX
GOTO TOP
SET PRINT ON
SET DEVICE TO PRINT
SET MARGIN TO 6
STORE 0 TO LINECNT
? SPACE(20) + 'ALL PLANT RECORDS BY SPECIFIC SOURCE'
? "ACCNUM LOCATION"
? " LATIN NAME 
STORE (LINECNT + 5) TO LINENCNT
DO WHILE .NOT. EOF()
    STORE SOURCE TO VSOURCE
    ? SPACE(4) + TRIM(GENUS) + SPACE(1) + TRIM(SPECIES) + SPACE(1) + TRIM(RANK) + SPACE(1) + TRIM(SUBSP) + SPACE(4) + VSOURCE + SPACE(4) + LOCATION
STORE (LINECNT + 2) TO LINECNT
SKIP
IF LINECNT >= 50
  ? CHR(12) STORE 0 TO LINECNT
  ? " "
  ? SPACE(20) + 'ALL PLANT RECORDS BY SPECIFIC SOURCE'
  ? "ACCNUM  LOCATION"
  ? " LATIN NAME "
  ?
  STORE (LINECNT + 6) TO LINECNT
ENDIF
ENDDO
ENDDO
EJECT
SET PRINT OFF
SET DEVICE TO SCREEN
@ 0,0 CLEAR
RELEASE ALL
CLOSE DATABASE
RETURN
* PUPDATE.PRG PRINT for Specific Update date
* Called from PRINT.PRG
* Copyright (c) David Murbach 1988

******************************************************************
SET HEADING OFF
SET BELL OFF
SET TALK OFF
SET INTENSITY ON
@ 1,50 SAY 'PUPDATE.PRG'
@ 3,0 CLEAR
CLOSE DATABASE
STORE 'Y' TO UPDTE
DO WHILE UPPER(UPDTE) <> 'N'
    SET DEVICE TO SCREEN
    SET PRINT OFF
    STORE 'Y' TO UPDTE
    @ 3,0 CLEAR
    @ 5,5 SAY 'This option prints Plant Records by a specific update date:'
    @ 6,5 SAY 'Please enter Y to continue or N to return to the Main Menu: ' GET UPDTE
    READ
    IF UPPER(UPDTE) <> 'Y'
        CLOSE DATABASE
        RELEASE ALL EXCEPT UPDTE
        SET DEVICE TO SCREEN
        SET PRINT OFF
        RETURN
    ENDIF
    @ 3,0 CLEAR
    STORE CTOD('01/01/00') TO VUPDATE
    @ 4,1 SAY 'ENTER UPDATE DATE TO VIEW: ' GET VUPDATE
    READ
    STORE DTOC(VUPDATE) TO VUPCHAR
    USE PLANTREC INDEX UPDNDX,ACCNDX
    SET FILTER TO UPDATE = CTOD(VUPCHAR)
    GOTO TOP
    SET PRINT ON
    SET DEVICE TO PRINT
    SET MARGIN TO 6
    STORE 0 TO LINECNT
    @ 0,0 CLEAR
    ?
    ? SPACE(15) + "PLANT RECORDS FOR SPECIFIC DATE UPDATED"
    ?
    ? "ACCNUM   LOCATION"
    ? " LATIN NAME"
    STORE (LINECNT + 5) TO LINECNT
    DO WHILE .NOT. EOF()
        ? "DATE UPDATED: " + VUPCHAR
        ?
        STORE (LINECNT + 3) TO LINECNT
    END WHILE
DO WHILE UPDATE = CTOD(VUPCHAR)
? ACCNUM+SPACE(4)+LOCATION

SPACE(4)+TRIM(GENUS)+SPACE(1)+TRIM(SPECIES)+SPACE(1)+TRIM(RANK)+SPACE(1)+TRIM(SUBSP)
STORE (LINECNT + 2) TO LINECNT
SKIP
IF LINECNT >= 50
? CHR(12)
STORE 0 TO LINECNT
@ 0,0 CLEAR
?
? SPACE(15) + "PLANT RECORDS FOR SPECIFIC DATE UPDATED"
?
? "ACCNUM LOCATION"
? "LATIN NAME"
?
STORE (LINECNT + 6) TO LINECNT
ENDIF
ENDDO
ENDDO
IF EOF()
EJECT
SET DEVICE TO SCREEN
SET PRINT OFF
@ 0,0 CLEAR
RELEASE ALL
RETURN
ENDIF
EJECT
SET PRINT OFF
SET DEVICE TO SCREEN
ENDDO
RELEASE ALL
@ 0,0 CLEAR
CLOSE DATABASE
RETURN
* PLOT.PRG  Main menu selection (3). Executes plots
Copyright (c) David Murbach 1988

SET TALK OFF
@3,0 CLEAR
DO WHILE .T.
DO CASE
CASE UPPER(SELECT2)='A'
   DO PLQUAD
CASE UPPER(SELECT2)='B'
   DO PLOTALL
CASE UPPER(SELECT2)='C'
   DO PLFAMSPEC
CASE UPPER(SELECT2)='D'
   DO PLGENSPEC
CASE UPPER(SELECT2)='E'
   DO PLNATSPEC
CASE UPPER(SELECT2)='F'
   DO PLACCNUM
OTHERWISE
   RETURN
ENDCASE
STORE ' ' TO SELECT2
CLOSE DATABASES
CLOSE FORMAT
ENDDO
@ 3,0 CLEAR
RETURN
* PLQUAD.PRG  Plots for Quadrant Letter and Number
* Called from PLOT.PRG
* Copyright (c) David Murbach 1988

******************************************************************
SET HEADING OFF
SET BELL OFF
SET TALK OFF
SET INTENSITY ON
@ 1,50 SAY 'PLQUAD.PRG'
@ 3,0 CLEAR
SET DEVICE TO SCREEN
SET PRINT OFF
clear
@ 3,0 CLEAR
STORE SPACE(4) TO VLETTER
STORE SPACE(4) TO VNUMBER
valid = .f.
do while .not. valid
  @ 3,0 CLEAR
  @ 4,1 SAY 'ENTER QUADRANT LETTER: ' GET VLETTER
  @ 5,1 SAY 'ENTER QUADRANT NUMBER: ' GET VNUMBER
  @ 7,1 Say 'Leave both blank to return to main menu.'
  READ
  mlet = ltrim(rtrim(vletter))
  mnum = ltrim(rtrim(vnumber))
  mview = mlet + mnum
  if mview = ''
    clear all
    return
  else
    @ 10,1 clear
    @ 11,1 clear
    valid = .t.
    if .not. upper(mlet) $ 'ABCD'
      valid = .f.
      @ 10,1 say 'Quadrant letter must be A, B, C or D'
    endif
    if .not. mnum $ '12345'
      valid = .f.
      @ 11,1 say 'Quadrant number must be 1, 2, 3, 4 or 5'
    endif
  endif
endo
erase gardenp.scr
use treeplot
goto top
xview = '3'
xview = xview + ' garden'
xview = xview + ' y'
xview = xview + ' ' + rtrim(mview)
xview = xview + ' y'
* PLOTALL.PRG  Plots ALL plant record
*  Called from PLOT.PRG
*  Copyright (c) David Murbach 1988

SET HEADING OFF
SET BELL OFF
SET TALK OFF
SET INTENSITY ON
@ 1,50 SAY 'PLOTALL.PRG'
SET DEVICE TO SCREEN
SET PRINT OFF

clear
@ 3,0 CLEAR
STORE 'N' TO ans
valid = .f.
do while .not. valid
   @ 3,0 CLEAR
   @ 4,1 SAY '(Y/N):' GET ans
   @ 6,1 Say 'Enter Y to PLOT THE ENTIRE GARDEN'
   @ 7,1 Say 'Enter N to return to main menu.'
   READ
   if upper(ans) = 'N'
      clear all
      return
   else
      @ 10,1 clear
      valid = .t.
      if upper(ans) .not. = 'Y'
         valid = .f.
      @ 10,1 say 'You must enter Y or N.'
      endif
   endif
enddo
erase gardenp.scr
use treeplot
goto top
xview = '3'
xview = xview + ' garden'
xview = xview + ' v'
xview = xview + ' GD'
xview = xview + ' y'
xview = xview + ' n'
xview = xview + ' n'
xview = xview + ' i'
xview = xview + ' 0.00,0.00'
xview = xview + ' max'
xview = xview + ' n'
xview = xview + ' 0.010'
xview = xview + ' n'
xview = xview + ' n'
xview = xview + ' 0.00833'
xview = xview + 'z';
xview = xview + 'y';
xview = xview + 'z';
xview = xview + '0';
replace view with xview
copy to gardenp.scr sdf
close all
copy file acad.sw to acad.plt
clear
quit
* AUDIT.PRG
* Executes the different options off the
* Edit and File Maintenance Menu depending
* on which choice is made
* Copyright (c) David Murbach 1988

*******************************************************************
SET TALK OFF
@3,0 CLEAR.
DO WHILE .T.
DO CASE
  CASE UPPER(SELECT2)='A'
    DO ADD
  CASE UPPER(SELECT2)='B'
    DO ACCEDIT
  CASE UPPER(SELECT2)='C'
    DO GENEDIT
  CASE UPPER(SELECT2)='D'
    DO RID
  CASE UPPER(SELECT2)='E'
    DO BACKUP
  CASE UPPER(SELECT2)='F'
    DO ACADUPDT
  OTHERWISE
    RETURN
ENDCASE
STORE • • TO SELECT2
CLOSE DATABASES
CLOSE FORMAT
ENDDO
@ 3,0 CLEAR
RETURN
This program is called in from AUDIT

*Copyright (c) David Murbach 1988*

---

```lisp
@ 0.0 CLEAR
@ 1.50 SAY 'ADD.prg'
SET BELL OFF
SET TALK OFF.
STORE 'N' TO UPDTE

TEXT
This option allows you to add new records to the database PLANTREC.dbf. Is this what you wish to do?

ENDTEXT
@7,9 SAY 'Please enter Y to continue, or' 
@8,9 SAY 'N to return to the main menu: ' GET UPDTE
READ
DO WHILE UPPER(UPDTE) <> 'N'

@3,0 CLEAR
SET EXACT ON
STORE SPACE(6) TO VACCNUM
SELECT 1
USE PLANREC INDEX

ACCNDX,LOCNIDX,GENNDX,SRCDNX,UPDNDX,LTADND
SELECT 2
USE ADDRECS
SELECT 1
GO BOTTOM
STORE ACCNUM TO LAST

@ 5,5 SAY 'LAST ACCESSION NUMBER ENTERED: ' LAST
@ 6,5 SAY 'ENTER ACCESSION NUMBER: ' GET VACCNUM
READ
LOCATE FOR ACCNUM=VACCNUM

IF NOT. EOF()

STORE .T. TO START

@14,36 SAY 'ERROR:
@15,36 SAY 'You have entered an accession
@16,36 SAY 'number already in the database
@17,36 SAY 'Please try again
@18,36 SAY '  

WAIT 'Press <RETURN> to continue...'
STORE SPACE(6) TO VACCNUM
@14,0 CLEAR
RETURN

ENDIF

@ 1.50 SAY 'ADD.prg'
USE PLANREC
```
SET INDEX TO ACCNDX, GENNDX, LOCNDX, SRCNDX, UPDNDX, LATINNDX
SET INTENSITY ON
STORE SPACE(30) TO VFAMILY
STORE SPACE(25) TO VGENUS
STORE SPACE(30) TO VSPECIES
STORE SPACE(5) TO VRANK
STORE SPACE(30) TO VSUBSP
STORE SPACE(30) TO VCOMNAM
STORE SPACE(30) TO VSOURCE
STORE SPACE(20) TO VNATIVITY
STORE CTOD('01/01/00') TO VUPDATE
STORE SPACE(40) TO VNOTES
STORE SPACE(40) TO VNOTES2
@1,0 CLEAR
@3,20 SAY 'ADDING RECORDS SCREEN'
@5,10 SAY 'ENTER ACCESSION NUMBER:
@5,40 SAY VACCNUM
@7,10 SAY 'ENTER FAMILY: ' GET VFAMILY
@8,10 SAY 'ENTER GENUS: ' GET VGENUS
@9,10 SAY 'ENTER SPECIES: ' GET VSPECIES
@10,10 SAY 'ENTER RANK: ' GET VRANK
@11,10 SAY 'ENTER SUBSP: ' GET VSUBSP
@12,10 SAY 'ENTER COMNAM: ' GET VCOMNAM
@14,10 SAY 'ENTER SOURCE: ' GET VSOURCE
@15,10 SAY 'ENTER LOCATION: ' GET VLOCATION
@16,10 SAY 'ENTER NATIVITY: ' GET VNATIVITY
@17,10 SAY 'ENTER UPDATE: ' GET VUPDATE
@18,10 SAY 'ENTER NOTES: ' GET VNOTES
@19,10 SAY ' ENTER NOTES: ' GET VNOTES2
READ
APPEND BLANK
REPLACE ACCNUM WITH VACCNUM
REPLACE FAMILY WITH UPPER(VFAMILY), GENUS WITH
UPPER(VGENUS), SPECIES WITH UPPER(VSPECIES)
REPLACE RANK WITH UPPER(VRANK), SUBSP WITH UPPER(VSUBSP), COMNAM
WITH UPPER(VCOMNAM)
REPLACE LOCATION WITH UPPER(VLOCATION), NATIVITY WITH
UPPER(VNATIVITY), SOURCE WITH UPPER(VSOURCE)
REPLACE UPDATE WITH VUPDATE
REPLACE NOTES WITH VNOTES, NOTES2 WITH VNOTES2
SELECT 2
APPEND BLANK
REPLACE ACCESSION WITH VACCNUM
REPLACE LOCATION WITH UPPER(VLOCATION)
SELECT 1
@21,20 SAY 'ANOTHER RECORD? ' GET UPDTE
READ
ENDDO
@3,0 CLEAR
SET INDEX TO ACCNDX, LOCNDX, GENNDX, SRCNDX, UPDNDX, LATINNDX
REINDEX
CLOSE DATABASE
RELEASE ALL
RETURN
* ACCEDIT.PRG This program is used to update or view
* by Accession Number
* Copyright (c) David Murbach 1988
********************************************************************************
@3,0 CLEAR
@1,50 SAY 'ACCEDIT',
SET BELL OFF
SET TALK OFF
STORE 'N' TO UPDTE
@ 3,0 CLEAR
@ 5,5 SAY 'This function allows you to update or view data by 'Accession number in the database PLANTREC'
@ 9,5 SAY 'Please enter Y to continue, or' N to return to the main menu: ' GET UPDTE
READ
CLOSE DATABASE
DO WHILE UPPER(UPDTE) <> 'N'
* continue while UPDTE is not equal to 'N'
* If UPDTE='N', returns to MAIN.prg
@1,50 SAY 'ACCEDIT',
@3,0 CLEAR
STORE SPACE(6) TO VACCNUM
SET INTENSITY ON
@ 6,5 SAY 'Please enter Accession Number: ' GET VACCNUM
READ
USE PLANTREC INDEX ACCNDX, GENNDX
GO TOP
IF VACCNUM=SPACE(6)
SET DEVICE TO SCREEN
@ 3,0 CLEAR
RELEASE ALL
RETURN
ENDIF
LOCATE FOR ACCNUM=UPPER(VACCNUM)
IF .NOT.EOF()
@ 3,0 CLEAR
STORE ACCNUM TO VACCNUM
STORE FAMILY TO VFAMILY
STORE GENUS TO VGENUS
STORE SPECIES TO VSPECIES
STORE RANK TO VRANK
STORE SUBSP TO VSUBSP
STORE COMNAM TO VCOMNAM
STORE SOURCE TO VSOURCE
STORE LOCATION TO VLOCATION
STORE NATIVITY TO VNATIVITY
STORE UPDATE TO VUPDATE
STORE NOTES TO VNOTES
STORE NOTES2 TO VNOTES2
@ 2,0 CLEAR
@ 3,10 SAY 'THIS SCREEN IS FOR EDITING RECORD INFORMATION'
@ 4,10 SAY 'For data you do not have, just hit <RETURN> '
@ 6,10 SAY 'ACCESSION NUMBER:'
@ 8,40 SAY VACCNUM
@ 7,10 SAY 'ENTER FAMILY: ' GET VFAMILY
@ 8,10 SAY 'ENTER GENUS: ' GET VGENUS
@ 9,10 SAY 'ENTER SPECIES: ' GET VSPECIES
@10,10 SAY 'ENTER RANK: ' GET VRANK
@11,10 SAY 'ENTER SUBSP: ' GET VSUBSP
@12,10 SAY 'ENTER COMNAM: ' GET VCOMNAM
@14,10 SAY 'ENTER SOURCE: ' GET VSOURCE
@15,10 SAY 'ENTER LOCATION: ' GET VLOCATION
@16,10 SAY 'ENTER NATIVITY: ' GET VNATIVITY
@17,10 SAY 'ENTER UPDATE: ' GET VUPDATE
@18,10 SAY 'ENTER NOTES: ' GET VNOTES
@19,10 SAY 'ENTER NOTES2: ' GET VNOTES2
READ
WAIT
REPLACE ACCNUM WITH VACCNUM
REPLACE FAMILY WITH UPPER(VFAMILY),GENUS WITH UPPER(VGENUS)
REPLACE SPECIES WITH UPPER(VSPECIES),RANK WITH UPPER(VRANK)
REPLACE SUBSP WITH UPPER(VSUBSP),COMNAM WITH UPPER(VCOMNAM)
REPLACE SOURCE WITH UPPER(VSOURCE),LOCATION WITH UPPER(VLOCATION)
REPLACE NATIVITY WITH UPPER(VNATIVITY),UPDATE WITH VUPDATE
REPLACE NOTES WITH VNOTES, NOTES2 WITH VNOTES2
ELSE
@14,36 SAY "*********************************************************************"
@15,36 SAY "ERROR:"
@16,36 SAY "*"
@17,36 SAY "* Did not locate Accession number *"
@18,36 SAY "* Please press <RETURN> to try again.*"
@19,36 SAY "*"
@20,36 SAY "*********************************************************************"
WAIT
@14,0 CLEAR
STORE 'Y' TO UPDTE
CLOSE DATABASE
ENDIF
@ 3,0 CLEAR
@ 5,5 SAY 'Another record to edit by Accession number? ' GET UPDTE
READ
ENDDO
CLOSE DATABASE
RELEASE ALL
RETURN
* GENEDIT.PRG  This program is used to update or view
 * data by Latin Name
 * Copyright (c) David Murbach 1988

@3,0 CLEAR
@1,50 SAY 'GENEDIT'
SET BELL OFF
SET TALK OFF
STORE 'N' TO UPDTE
@ 3,0 CLEAR
@ 5,5 SAY 'This function allows you to update or view data by '
@ 6,5 SAY 'by Latin name in the database PLANTREC'
@ 9,5 SAY ' Please enter Y to continue, or'
@ 10,5 SAY ' N to return to the main menu: ' GET UPDTE
READ
CLOSE DATABASE
DO WHILE UPPER(UPDTE) <> 'N'
  * continue while UPDTE is not equal to 'N'
  * If UPDTE='N', returns to MAIN.prg
@1,50 SAY 'GENEDIT'
@3,0 CLEAR
STORE SPACE(25) TO VGENUS
STORE SPACE(30) TO VSPECIES
STORE SPACE(S) TO VRANK
STORE SPACE(30) TO VSUBSP
SET INTENSITY ON
  @ 1,50 SAY 'GENEDIT.prg'
  @ 3,0 CLEAR
  @ 6,5 SAY 'Please enter GENUS: ' GET VGENUS
  @ 7,5 SAY ' SPECIES: ' GET VSPECIES
  @ 8,5 SAY ' RANK: ' GET VRANK
  @ 9,5 SAY ' SUBSP: ' GET VSUBSP
READ
USE PLANTREC
** INDEX LATINNDX,ACCNDX
GO TOP
IF VGENUS=SPACE(25) 
  SET DEVICE TO SCREEN
  @ 3,0 CLEAR
  RELEASE ALL
  RETURN
ENDIF
LOCATE FOR GENUS=UPPER(VGENUS) .AND. SPECIES=UPPER(VSPECIES) .AND.
RANK=UPPER(VRANK) .AND. SUBSP=UPPER(VSUBSP)
IF .NOT.EOF()
  @ 3,0 CLEAR
  STORE ACCNUM TO VACCNUM
  STORE FAMILY TO VFAMILY
  STORE GENUS TO VGENUS
  STORE SPECIES TO VSPECIES
  STORE RANK TO VRANK
STORE SUBSP TO VSUBSP
STORE COMNAM TO VCOMNAM
STORE SOURCE TO VSOURCE
STORE LOCATION TO VLOCATION
STORE NATIVITY TO VNATIVITY
STORE UPDATE TO VUPDATE
STORE NOTES TO VNOTES
STORE NOTES2 TO VNOTES2
@ 2,0 CLEAR
@ 3,10 SAY 'THIS SCREEN IS FOR EDITING RECORD INFORMATION'
@ 4,10 SAY 'For data you do not have, just hit <RETURN> '
@ 6,10 SAY ' GENUS: '
@ 6,40 SAY VGENUS
@ 8,10 SAY 'ENTER ACCESSION NUMBER: ' GET VACCNUM
@ 9,10 SAY ' ENTER FAMILY: ' GET VFAMILY
@10,10 SAY ' ENTER GENUS: ' GET VGENUS
@11,10 SAY ' ENTER SPECIES: ' GET VSPECIES
@12,10 SAY ' ENTER RANK: ' GET VRANK
@13,10 SAY ' ENTER SUBSP: ' GET VSUBSP
@14,10 SAY ' ENTER COMNAM: ' GET COMNAM
@16,10 SAY ' ENTER SOURCE: ' GET VSOURCE
@17,10 SAY ' ENTER LOCATION: ' GET VLOCATION
@18,10 SAY ' ENTER NATIVITY: ' GET VNATIVITY
@19,10 SAY ' ENTER UPDATE: ' GET VUPDATE
@20,10 SAY ' ENTER NOTES: ' GET VNOTES
@21,10 SAY ' GET VNOTES2
READ ~
WAIT.
REPLACE ACCNUM WITH VACCNUM
REPLACE FAMILY WITH UPPER(VFAMILY),GENUS WITH
UPPER(VGENUS),SPECIES WITH UPPER(VSPECIES)
REPLACE RANK WITH UPPER(VRANK),SUBSP WITH UPPER(VSUBSP),COMNAM
WITH UPPER(COMNAM)
REPLACE LOCATION WITH UPPER(VLOCATION),NATIVITY WITH
UPPER(VNATIVITY),SOURCE WITH UPPER(VSOURCE)
REPLACE UPDATE WITH VUPDATE
REPLACE NOTES WITH VNOTES, NOTES2 WITH VNOTES2
ELSE
@14,36 SAY "***************************************************************************"
@15,36 SAY " ERROR:"
@16,36 SAY "*
@17,36 SAY " * Did not locate Latin Name"
@18,36 SAY " * Please press <RETURN> to try again..."
@19,36 SAY "*"
@20,36 SAY "***************************************************************************"
WAIT
@14,0 CLEAR
STORE 'Y' TO UPDTE
CLOSE DATABASE
ENDIF
@ 3,0 CLEAR
@ 5,5 SAY 'Another record to edit by Latin Name' GET UPDTE
READ
ENDDO
CLOSE DATABASE
RELEASE ALL
RETURN
DELETE
PACK
ENDIF
ELSE
   @14,36 SAY '*******************************************************************************'
   @15,36 SAY '*' ERROR: 
   @16,36 SAY '*'
   @17,36 SAY '* Did not locate Accession number  
   @18,36 SAY '* Please press <RETURN> to try again...'
   @19,36 SAY '*'
   @20,36 SAY '*******************************************************************************'
   WAIT
   @14,0 CLEAR
ENDIF
ENDIF
@ 3,0 CLEAR
@ 5,5 SAY 'DO YOU WISH TO DELETE ANOTHER RECORD? ' 
@ 6,5 SAY 'Answer Y or N: ' GET UPDTE
READ
ENDDO
USE PLANTREC
SET INDEX TO ACCNDX,GENNDX,SRNNDX,LOCNDX,LATINNDX,UPDNDX
REINDEX
CLOSE DATABASE
RELEASE ALL
RETURN
* BACKUP.PRG  This program is used to backup the PLANTREC.DBF
*    database to a diskette
*    Copyright (c) David Murbach 1988
****************************************************************
@3.0 CLEAR
@1.50 SAY 'BACKUP '
SET BELL OFF
SET TALK OFF
STORE 'N' TO UPDTE
?
? TEXT
This option allows you to BACKUP the plant records
in database PLANTREC to a diskette in the A: drive
ENDTEXT
@7.9 SAY ' Please enter Y to continue, or'
@8.9 SAY ' N to return to the main menu: ' GET UPDTE
READ
DO WHILE UPPER(UPDTE) <> 'N'
    @3.0 CLEAR
    @ 3.6 SAY 'PLEASE PUT THE DISKETTE TO BACKUP TO IN THE A: DRIVE'
    @ 6.0 SAY ''
    @ 7.0 SAY ''
    CLOSE DATABASE
    WAIT
    COPY FILE PLANTREC.DBF TO A:PLANTREC.DBF
    STORE 'N' TO UPDTE
ENDDO
RELEASE ALL
RETURN
* ACADUPDT.PRG
* Prepares file to pass to acad, runs the
* batch file then deletes the records.
* Copyright (c) David Murbach 1988
******************************************************************************
SET TALK OFF
@ 0,0 CLEAR
@ 1,30 SAY 'ACADUPDT.PRG'
SET BELL OFF
SET TALK OFF
STORE 'N' TO UPDTE
funccode = ''
addcnt = 0
remcnt = 0
?
?
TEXT
This option allows you to enter graphics to update the drawing.
Do you want to process the
'A'dds
'D'eletes
or
'B'oth
or
'E'xit back to menu
ENDTEXT
do while funccode = ''
    @13,9 SAY 'Please enter the letter of your choice' get funccode
    READ
    if .not. funccode $ 'AaDdBbEe'
        funccode = ''
        @15,9 SAY 'You must enter a valid choice (A, D, B or E)
    endif
enddo
if funccode $ 'Ee'
    return
endif
USE ADDRECS
addcnt = reccount()
use remrecs
remcnt = reccount()

@3,0 clear
IF funccode $ 'Aa'.and. addcnt = 0
    TEXT
    No records have been added
ENDTEXT
@7,9 SAY ' Press any key to continue.'
READ
RETURN
ENDIF

IF funcode $ 'Dd'.and. remcnt = 0
TEXT
   No records have been deleted
ENDTEXT
@7,9 SAY ' Press any key to continue.'
READ
RETURN
ENDIF

IF funcode $ 'Bb'.and. addcnt = 0 .and. remcnt = 0
TEXT
   No records have been added or deleted
ENDTEXT
@7,9 SAY ' Press any key to continue.'
READ
RETURN
ENDIF

if funcode $ 'AaBb'.and. addcnt <> 0
@3,0 CLEAR
ERASE ADDRECS.BAK
ERASE ADDSORT.DBF
ERASE TREEVAL.VAL
CLOSE ALL
USE ADDRECS
COPY TO ADDRECS.BAK
IF RECCOUNT() = 1
   CLOSE ALL
   COPY file ADDRECS.dbf TO ADDSORT.dbf
ELSE
   SORT ON LOCATION TO ADDSORT.DBF
ENDIF
USE ADDRECS
GOTO TOP
DO WHILE .NOT. EOF()
   DELETE
   SKIP 1
ENDDO
PACK
CLOSE ALL
USE ADDSORT.DBF
COPY TO TREEVAL.VAL SDF
CLOSE ALL
endif

if funcode $ 'DdBb'.and. remcnt <> 0
@3,0 CLEAR
ERASE remRECS.BAK
ERASE remSORT.DBF
ERASE TREErem.VAL
CLOSE ALL
USE remRECS
COPY TO remRECS.BAK
IF RECCOUNT() = 1
  CLOSE ALL
  COPY file remRECS.dbf TO remSORT.dbf
ELSE
  SORT ON LOCATION TO remSORT.DBF
ENDIF
USE remRECS
GOTO TOP
DO WHILE .NOT. EOF()
  DELETE
  SKIP 1
ENDDO
PACK
CLOSE ALL
USE remSORT.DBF
COPY TO TREErem.VAL SDF
CLOSE ALL
endif
erase treeint.val
use treeint
do case
  case funcode $ 'Bb'
    if addcnt = 0
      vflag = 'REM'
    else
      if remcnt = 0
        vflag = 'ADD'
      else
        vflag = 'BTH'
      endif
    endif
  endif
  case funcode $ 'Aa'
    vflag = 'ADD'
  case funcode $ 'Dd'
    vflag = 'REM'
endcase
goto top
replace flag- with vflag
COPY TO TREEint.VAL Svdf
COPY FILE ACAD.SW TO ACAD.ADD
quit
*ACAD.PGP  External Command File
*  Copyright (c) David Murbach 1988
*******************************************************************************
SHELL.,125000,*C> ,0
CD,CHDIR,24000,*Enter CURRENT Directory: ,0
ADDBAK,COPY \GARDEN\TREEVAL.VAL \GARDEN\TREEVAL.BAK,24000,,0
REMBAK,COPY \GARDEN\TREEVAL.VAL \GARDEN\TREEREM.BAK,24000,,0
(defun C:RESTART ()
  (garden)
)

(defun garden ()
  (setq "menuecho" 3)
  (setq "cmdecho" 0)
  (setq "expert" 1)
  (setq lastloc "GD")
  (setq inf (open "\garden\treeint.val" "r"))
  (if (= inf nil)
    (progn
      (setq "menuecho" 1)
      (prompt "File Not Found...")
      (setq "menuecho" 3)
    )
    (progn
      (setq addordel (read-line inf))
      (close inf)
      (if (= "ADD" addordel)
        (progn
          (addtree)
          (command "addbak")
        )
        (if (= "REM" addordel)
          (progn
            (remtree)
            (command "rembak")
          )
          (if (= "BTH" addordel)
            (progn
              (addtree)
              (remtree)
              (command "addbak")
              (command "rembak")
            )
          )
        )
      )
    )
  )
  (setq endver (getstring "Remain in Garden? <n> "))
  (setq endver (strcase (substr endver 1)))
  (if (or (= "" endver)(= "N" endver))
    (command "script" "\garden\garden"(graphscr))
    (command "view" "r" "GD")
  )
(setq var "menuecho" 3)
(command "layer" "s" "tree" "")
(grtext -1 (strcat "Current Location: " lastloc))
(command "insert" "tree" trinpt "6" "")
(command "select",")
(command "layer" "s" "ACCTEXT" ")
(grtext -1 (strcat "Current Location: " lastloc))
(command "text" "m" trinpt 72 0 access)
(command "layer" "s" "tree" ")
(grtext -1 (strcat "Current Location: " lastloc))
(setq verloc "N")
(while (= "N" verloc)(verpos))
(setq record (read-line f))
)

(defun verpos ()
(setq verloc (getstring "\nIs Tree Location Correct? <y> ")
(setq verloc (strcase (substr verloc 1 1)))
(if (= "" verloc)(setq verloc "Y")
(if ("N" verloc).
(progn
 (setq nwlocpt (getpoint "\nSelect New Tree Location: "))
 (command "move" "I" "P" "" @" nwlocpt)
 )
)
)

(defun remtree ()
(setq var "menuecho" 1)
(prompt "\nBeginning Tree Removal Process......")
(setq var "menuecho" 3)
(setq f (open "\garden\treerem.val" "r")
(if (= f nil)
(progn
 (setq var "menuecho" 1)
 (prompt "\nFile Not Found...")
 (setq var "menuecho" 3)
)
)
(treer))
(if (/= f nil)
(progn
 (close f)
 (setq var "menuecho" 1)
 (prompt "\nTree Removal is Complete...")
 (setq var "menuecho" 3)
 (command "delay" 1500)
)
)
)

(defun treer ()
(setq record (read-line T))
(while (/= record nil)
  (progn
    (setq location (substr record 1 7))
    (setq access (substr record 8 13))
    (if (/= location lastloc)
      (progn
        (slice)
        (setq lastloc location)
        (viewval)
        (command "view" "r" lastloc)
        (gettext -1 (strcat "Current Location: " lastloc))
        (trdelete)
      )
    )
  )
)

(defun trdelete ()
  (gettext -1 (strcat "Current Location: " lastloc))
  (setq treedf (entsel (strcat \nPlease Select Tree <" access " > For Removal: ")))
  (while (= nil treedf)
    (setq treedfv (getstring \nTree Not Found, Skip ? <n> ))
    (setq treedfv (strcase (substr treedfv 1 1)))
    (if (= "Y" treedfv)
      (progn
        (setq treedf "skip")
        (setq treedt "skip")
      )
    )
    (setq treedf (entsel \nPlease Re-Select Tree for Removal: "))
  )
  (if (= "skip" treedf)(redraw (car treedf) 3))
  (if (= "skip" treedf)
    (setq treedt (entsel \nPlease Select Tree Tag <" access " > For Removal: " )))
  )
  (while (and (= "skip" treedf)(= nil treedt))
    (setq treedtv (getstring \nTree Tag Not Found, Skip ? <n> ))
    (setq treedtv (strcase (substr treedtv 1 1)))
    (if (= "Y" treedtv)
      (setq treedt "skip")
    )
    (setq treedt (entsel \nPlease Re-Select Tree Tag for Removal: "))
  )
  (if (= "skip" treedt)(redraw (car treedt) 3))
  (if (= "skip" treedf)(redraw (car treedf) 4))
  (if (= "skip" treedt)(redraw (car treedt) 4))
  (setq verloc "N")
(while (and (/= "skip" treedt)(= "N" verloc))
    (progn
        (setq verloc (getstring "/nAre Tree and Tag Correct? <y> "))
        (setq verloc (strtolower (substr verloc 1 1)))
        (if (= "N" verloc)
            (progn
                (setvar "menu echo" 1)
                (setq treedf (entset (strcat "\nPlease Select Tree <" access "> For Removal: ")))
                (redraw (car treedf) 3)
                (if (/= "skip" treedt)
                    (setq treedf (entset (strcat "\nPlease Select Tree Tag For Removal: ")))
                    (if (/= "skip" treedt)((redraw (car treedt) 3))
                    (redraw (car treedf) 4)
                    (if (/= "skip" treedt)(redraw (car treedt) 4))
                )
            )
        )
    )
)
(if (/= "skip" treedf)(redraw (car treedf) 4))
(if (/= "skip" treedt)(redraw (car treedt) 4))
(if (/= "skip" treedf)(command "erase" treedf "")
(if (/= "skip" treedt)(command "erase" treedt "")
    (setq treedf nil)
    (setq treedt nil)
    (setq treedfv nil)
    (setq treedtv nil)
    (setq record (read-line f))
)

(defun slice ()
    (setq mem 7)
    (while (/= 0 mem)
        (progn
            (setq val (substr location mem 1))
            (if (= " " val)
                (progn
                    (setq location (substr location 1 (- mem 1)))
                    (setq mem (- mem 1))
                )

            )
    )
)

(defun viewval ()
    (setq vval (tblsearch "view" location))
    (while (null vval)
        (setvar "menu echo" 1)
        (setq invprom
(strcat \n <" location"> Invalid Location, Please Re-Select: ")
(setq locate (getstring invprom))
(setvar "menuecho" 3)
(setq lastloc (strcase locate))
(setq vval (tblsearch "view" lastloc))
)
)

(defun *error* (st)
(princ "Tree Insertion Input Error: ")
(princ st)
(terpri)
)

(defun clean ()
(setq lastloc nil)
(setq f nil)
(setq record nil)
(setq location nil)
(setq lastloc nil)
(setq access nil)
(setq inprom nil)
(setq tript nil)
(setq ltree nil)
(setq record nil)
(setq mem nil)
(setq val nil)
(setq locate nil)
)