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SACL

Student Assisted Class List
by
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This work was supported by the National Research Council of Canada.
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I. Introduction

The SACL system is designed to accompany the CLASSPAK system for handling classroom records [1]. The functions in SACL permit the student to enter his own name and section numbers into a file which the teacher can then move into his own workspace containing the CLASSPAK DATA.

It is expected that SACL will be of the most use to those who teach large first year classes. In this context, SACL has two advantages. It gives the new student an exposure to a computer terminal system, and it relieves the teacher of a great deal of work involved in entering the student names into CLASSPAK.

II. Description of START, SIGNUP and FETCH.

The function

START

is used after INITIALIZE and ADD S (in CLASSPAK) have been used. START asks for a file name, creates two files, and asks for course name and lecturer's name. These names and the section information (if any was entered via ADD S) are stored in the first of the two files and are passed to the student when he uses the function

SIGNUP

which is in a workspace that has been prepared for the students by the teacher. This function asks the student 1) if he wants to enroll for the course and lecturer listed, and, if he says yes, 2) for his name, and 3) which of the listed sections he is in. His responses are appended to the second of the two files created by START. The function

FETCH

is used by the teacher to transfer the names from the name file and place
them in his workspace.

Example 1: The first steps with INITIALIZE (from CLASSPAK) and START (from SACL).

)LOAD 3 CLASSPAK2
SAVED 9.28.27 07/L8/72
INITIALIZE
TYPE IN MAXIMUM NUMBERS FOR NAMES, SECTIONS, AND MARK COLUMN TITLES:

□:
200 7 20
--NUMBER OF CHARACTERS IN A NAME OR COLUMN TITLE:
□:
23
INITIALIZATION COMPLETE.
PLEASE )ERASE INITIALIZE SETCONST DESCRIBE

)ERASE INITIALIZE SETCONST DESCRIBE
ADD S
--SECTION NAMES TO BE ADDED:
BEGINNERS;INTERMEDIATES;MASTERS
BEGINNERS ← SECTION 1
INTERMEDIATES ← SECTION 2
MASTERS ← SECTION 3
)COPY 555 SACL STARTER;
SAVED 10.42.12 31/08/72
START

THIS FUNCTION SHOULD BE RUN ONLY AFTER THE INITIALIZE FUNCTION (3 CLASSPAK) HAS BEEN RUN. ALSO, ANY SECTIONS YOU MAY WISH TO SPECIFY SHOULD BE ENTERED VIA THE COMMAND ADD S. THESE SECTIONS SHOULD NOT BE ALTERED UNTIL AFTER ALL USES OF THE FETCH FUNCTION ARE COMPLETED.

ARE ALL SECTIONS ENTERED? YES

NAME FOR FILE RECORDS: 111 CHESS
111 CHESS ← NAME. OK? YES

WHAT IS THE COURSE NAME? CHESS FOR ALL CHESS FOR ALL C COURSE NAME. OK? NO

WHAT IS THE COURSE NAME? SUPER CHESS
SUPER CHESS ← COURSE NAME. OK? Y

WHO IS THE LECTURER? B. FISCHER
B. FISCHER ← LECTURER. OK? YES
THE NAMES OF THE CREATED FILES ARE:
111 CHESS1
111 CHESS2

PLEASE EXECUTE THIS SEQUENCE OF COMMANDS:
)ERASE START IO (+NO LONGER NEEDED)
)SAVE NN:LL (+PICK A NAME, NN, AND A LOCK, LL, THAT YOU
     CAN REMEMBER)
)CLEAR (+MAKE A CLEAN WS)
)COPY 555 SACL STU (+GETS SIGNUP FUNCTION)
)COPY NN:LL FN (+USE NN AND LL AS BEFORE AND THE LETTERS 'FN')
)SEAL (+FOR SECURITY)
)SAVE XX NAME (+PICK A LIBRARY NUMBER, XX, AND NAME, NAME, FOR
     WORKSPACE THAT WILL BE USED BY STUDENTS.)

)ERASE START IO
)WSID KING:CHECK
WAS 3 CLASSPAK2
)SAVE
  16.41.55 01/09/72 KING
)CLEAR
CLEAR WS
)COPY 555 SACL STU
SAVED 10.42.12 31/08/72
)COPY KING:CHECK FN
SAVED 16.41.55 01/09/72
)SEAL
)SAVE 555 QUEEN
16.42.58 01/09/72
)OFF

Example 2: The SIGNUP function used by the student.

)LOAD 555 QUEEN
SAVED 16.42.58 01/09/72
SIGNUP
DO YOU WANT TO SIGN UP FOR SUPER CHESS WITH B. FISCHER? YES
PLEASE: YOUR FAMILY NAME, A COMMA, AND YOUR INITIALS:
DONALDSON, D.D.
DONALDSON, D.D.+ YOUR NAME. OK? YES
WHICH OF THESE SECTIONS ARE YOU IN?
 1+ BEGINNERS
 2+ INTERMEDIATES
 3+ MASTERS
ENTER NUMBERS (+) PLEASE: 2

2--INTERMEDIATES
+ SECTIONS. OK? Y
THANK YOU.

SIGNUP
DO YOU WANT TO SIGN UP FOR SUPER CHESS WITH B. FISCHER? Y

PLEASE: YOUR FAMILY NAME, A COMMA, AND YOUR INITIALS:
DUCK, DONALD
DUCK, DONALD + YOUR NAME. OK? NO

-3-
PLEASE: YOUR FAMILY NAME, A COMMA, AND YOUR INITIALS:
DUCK, D.
DUCK, D. + YOUR NAME. OK? Y

WHICH OF THESE SECTIONS ARE YOU IN?
1+ BEGINNERS
2+ INTERMEDIATES
3+ MASTERS
ENTER NUMBERS (+) PLEASE: 1

1--BEGINNERS
+ SECTIONS. OK? Y
THANK YOU.

SIGNUP
DO YOU WANT TO SIGN UP FOR SUPER CHESS WITH B. FISCHER? Y

PLEASE: YOUR FAMILY NAME, A COMMA, AND YOUR INITIALS:
WEDDERBIRM, JOHN HENRY MILLFORD
WEDDERBIRM, JOHN HENRY + YOUR NAME, (IT WAS TRUNCATED.) OK? NO

PLEASE: YOUR FAMILY NAME, A COMMA, AND YOUR INITIALS:
WEDDERBURN, J.H.M.
WEDDERBURN, J.H.M. + YOUR NAME. OK? Y

WHICH OF THESE SECTIONS ARE YOU IN?
1+ BEGINNERS
2+ INTERMEDIATES
3+ MASTERS
ENTER NUMBERS (+) PLEASE: 3

3-- MASTERS
+ SECTIONS. OK? Y
THANK YOU

Example 3: The FETCH function used by the teacher.

)LOAD KING:CHECK
SAVED 16.41.55 01/09/72
FETCH
3 NAMES ADDED TO CLASS LIST.
DO NOT FORGET TO )SAVE
LIST ALL N

NO. STUDENT NAMES (3)
001 DONALDSON, D.D.
002 DUCK, D.
003 WEDDERBURN, J.H.M.
---END---

)SAVE
9.20.58. 05/09/72 KING
II. Description of the auxiliary functions, CLEANUP, SCANFILE, and SCRUBFILES.

The names in the name file are not removed by the function FETCH when they are transferred to the workspace containing DATA. Instead the lowest numbered component of the file contains an integer which is the number of the next component that will be transferred. After you are convinced that the data has been successfully transferred from the file to the workspace, the function

CLEANUP

can be used to delete from the file those names which have been transferred. This should be done from time to time in order to keep the size of the file no larger than necessary.

You can display the contents of either of the two files at any time by typing the command

SCANFILE i (i is either 1 or 2).

This could be useful to you if there are more entries in the file than can be put into your workspace containing DATA. If you wish to see only a few of the components of file i, then the command

SCANFILE i, j, k

will cause the components with numbers between j and k to be listed.

After all names have been entered into CLASSPAK, there will be no further need for the files. The files should be deleted from the APL system. The function

SCRUBFILES

will remove the files. At this time you will also want to remove the workspace containing SIGNUP that you designed for the student. This can
be done by the system command

)DROP XX NAME

Of course, you must use the same number, XX, and name, NAME, that you used when you stored the workspace.

Example 4: The CLEANUP, SCANFILE, and SCRUBFILES functions.

)LOAD 555 SA CL
S Aved 10.42.12 31/08/72
)COPY KING:CHECK FN
S Aved 9.20.58 05/09/72
SCANFILE 1
111 CHESS1
(1) 10609 09/01/72 16:39:45:41 HOW TO PLAY CHESS
(2) 10609 09/01/72 16:39:45:52 B. FISCHER
(3) 10609 09/01/72 16:39:45:59
BEGINNERS
INTERMEDIATES
MASTERS

SCANFILE 2
111 CHESS2
(1) 10609 09/05/72 09:20:36:06 5
(2) 30442 09/01/72 16:47:45:30 DONALDSON, D.D. 010
(3) 30442 09/01/72 16:49:01:13 DUCK, D. 100
(4) 30442 09/01/72 16:51:49:48 WEDDE BURN, J.H.M. 001

CLEANUP
3 ENTRIES DROPPED FROM FILE.

SCANFILE 2
111 CHESS2
(4) 10609 09/05/72 09:22:55:18 5

SCRUBFILES
ERASED: 111 CHESS1
ERASED: 111 CHESS2

)DROP 555 QUEEN
10:55:37 05/09/72

III. Security:

It is possible for the student to learn the name of the file where his name temporarily resides. In example 1, this is 111 CHESS2. It is always given by the second line of the variable FN. However, his
Use of the file is restricted to appending only, and this, only with the use of a lock number. The lock number for the file is contained inside the function and cannot be displayed because it has been sealed. Even if the lock number becomes known, the worst that can happen to the file is that unusable data could be appended.

Your workspace with DATA from CLASSPAK is secure as long as you keep the workspace name and lock a secret. (This was KING:CHECK in example 1).

You can create files that have the same library number as your own account number or with any public library number (that is, a number between 1 and 999). It is recommended that you specify a public account number for your files. In this way, your account number is not a part of the file name. Likewise, the workspace that the student loads should be put into a public library rather than into your own.

All access to the two files is controlled by means of an access matrix. The lock numbers specified are different for the creator of the file than for all other users. For this reason, you must use the same account number every time you do any of the functions FETCH, CLEANUP, SCANFILE, or SCRUBFILES that you used when you executed the function START. If you wish to try the function SIGNUP, you will be able to do so with any account number other than your own.

IV. Space problems.

In order to run the function START it is necessary to have only the group of variables called DATA from your workspace (called KING:CHECK in example 1). To run the function FETCH both DATA and FN are necessary. FN is a matrix giving the names of the files containing your class information.
and names of students.

For example, if you try to execute \texttt{START} and receive the message \texttt{WSPULL}, this sequence of steps may help.

\begin{verbatim}
> )ERASE STARTER
> )SAVE NN:LL
> )CLEAR
> )COPY NN:LL DATA
> )COPY 555 SACL STARTER
> START
> )WSID CONTINUE
> )SAVE CONTINUE
> )LOAD NN:LL
> )COPY CONTINUE FN
> )SAVE
> )DROP CONTINUE
\end{verbatim}

Or, if problems occur while using \texttt{FETCH}, this sequence may help.

\begin{verbatim}
> )SAVE NN:LL
> )CLEAR
> )COPY NN:LL DATA FN
> )COPY 555 SACL STARTER
> )FETCH
> )WSID CONTINUE
> )SAVE CONTINUE
> )LOAD NN:LL
> )COPY CONTINUE DATA
> )SAVE
> )DROP CONTINUE
\end{verbatim}

The functions \texttt{CLEANUP}, \texttt{SCANFILE}, \texttt{SCRUBFILES} need only the matrix \texttt{FN}, so this sequence will work.

\begin{verbatim}
> )LOAD 555 SACL
> )COPY NN:LL FN
\end{verbatim}

\texttt{CLEANUP}, \texttt{SCANFILE}, or \texttt{SCRUBFILES}

No saving is necessary or useful after the execution of these functions, since they only affect the files and not the contents of a workspace.
V. Some suggested sequences.

The underlined expressions are substitutions for names, lock, and library number which you will specify.

1. The starting sequence

   )sign on
   )LOAD 3 CLASSPAK2
   INITIALIZE
   ADD S
   )COPY 555 SACL STARTER
   START
   )WSID NN:LL
   )SAVE

2. Preparing the workspace for students

   )CLEAR
   )COPY 555 SACL STU
   )COPY NN:LL FN
   )SEAL
   )SAVE XX NAME

3. The student sign up

   )number       (sign on)
   )LOAD XX NAME
   SIGNUP
   )OFF

4. Transferring names from file to workspace

   )LOAD NN:LL
   FETCH
   )SAVE

5. Removing names from the file

   )LOAD 555 SACL
   )COPY NN:LL FN
   CLEANUP
6. Ending student signup

)LOAD \(\text{NN:LL}\)
FETCH
)SAVE

)LOAD 555 SAACL
)COPY \(\text{NN:LL}\) FN
SCRUBFILES

)LOAD \(\text{NN:LL}\)
)ERASE STARTER
)SAVE

)DROP \text{xx NAME}
VI. Bibliography.

