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# acs academic computing services Newsletter

Volume 25, Number 1

University of Minnesota, Twin Cities

January, 1991

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### A Feature of the New Info Service

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**A**cademic Computing Services is pleased to announce the debut of The Calendar, a central electronic means of sharing information about events with the entire University community.

Every University department is welcome to announce events in The Calendar. There is no charge to use The Calendar to announce or to look up events. You can select what events to see by asking for specific time periods, specific types of events, or a particular campus, or combinations of these.

To learn how to access The Calendar, see the article on page 3 describing the ACS Info system.

### Advantages of The Calendar

Until recently, University Relations published a monthly Twin Cities campus events log called The Calendar in the *Minnesota Daily*. Last summer, University Relations and ACS arranged for The Calendar to become an on-line service. This has resulted in a significant reduction in some costs while at the same time making it possible to offer many improvements.

For example, events can be posted whenever their details are determined—days, months, or even years before they occur. Notices of events can include more details since there is no limitation on space as there was in the printed version. And because it is available to all campuses over the University network, the on-line version has been expanded to include events on other campuses, not just the Twin Cities.

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# acs

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## ACS Info: On-line University Information

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**A**fter nearly two years of planning and development, the first phase of the ACS Info service has become a reality. The Info service makes it easy for you to access public University information, such as policies, events notices, directories, and announcements. Info is free to users on and off campus.

### What's in Info?

Any information about the University or its faculty, staff, students, services, policies, and events could be made available through Info. Right now in Info you'll find two official University policy statements: the Professional and Academic Manual and policies on graduate assistants.

You'll also find announcements, including the text of the current University Brief, the University News Log, and the Astronomy Department's Starwatch.

For information about upcoming University events, you can see The Calendar, described in another article in this issue.

### Easy to Use

We think Info is easy to use. You select items from menus, rather than typing commands. The menus let you browse through the various documents and other kinds of information that is available. On-line help is available at all times. Searching for specific information is simplified by the presence of searching commands—for example, in the events calendar, described elsewhere in this issue, you can search by type of event and/or by date or month or day of week.

Among the features you will find in the current version of Info are these:

- The simple, menu-oriented interface is easy to learn.
- Help is always available.
- Several documents explain more about Info, including plans and recent changes.
- The built-in response facility lets you send comments to the Info group.

We are expanding the Info service as we go to press, so you may see new features appear soon, perhaps even by the time you read this. There is a menu selection (under About Info) that tells you what significant changes have been made recently. Changes will be made based on our plans and experience, and based on criticism and suggestions from users.

We encourage you to give us feedback about Info. There is a **response** command inside Info that lets you send a message to the Info project. Or you can call or write to us.

Because this is just the first phase of Info development, there are some limitations that will be removed in later phases. A major limitation is that the terminal you use, or the terminal-emulation software on your personal computer or workstation, must be VT100-compatible. If it is not, you will not be able to use Info.

If you have questions about your terminal or terminal-emulation software, feel free to call the ACS HELP-Line at (612) 626-5592 for advice.

### Accessing Info

To access Info from an account on one of the ACS VMS systems (VX or VZ), just log in to your account and type the command INFO.

*Info continued on page 4*

# Services

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*Info continued from page 3*

If you do not have an account on one of these systems, you can still get to Info. There is a public account called **INFO** that anyone can log into without a password.

If you have a workstation or an account on some other computer system connected to the University network, you can use the command **TELNET VX.ACS.UMN.EDU** to connect to the Info system, and then log in by typing **INFO** in response to the prompt for user name.

Or, if you have a terminal or personal computer with a modem, you can access Info through the telephone system. Dial (612) 626-1631. When the connection is made and you get a prompt, type **VX.ACS**. You should then be connected to the Info system, and you can log in by typing **INFO** at the user name prompt.

The ACS HELP-Line can offer advice to help you get connected to Info.

## Your Message Here

If your department would like to make information available through Info, please write or call. As we get more experience with this service, we will evaluate and modify it to make adding and maintaining information easier. More details are available from Peter Chandy at (612) 626-1527, or send E-mail to [pac@vx.acs.umn.edu](mailto:pac@vx.acs.umn.edu).

## The Future

We have an extensive, flexible plan for expanding the Info service. New information (documents, events, etc.) will be added as they become available. Changes that address error reports and simple suggestions from users will also be done on an ongoing basis.

The addition of major new features, however, will proceed in phases. To some extent, these phases will be determined according to cost and demand. If you want to see high priority placed on certain features, please let us know. The following are some of the major features that we are planning.

- **Printing.** When using Info from your account, you should be able to get a paper listing of a document or calendar.
- **Downloading.** You should be able to move documents or events lists to a file on your microcomputer.
- **Directory.** You should be able to access the student/staff directory (**Lookup**) using a menu-based interface, similar to the Calendar.
- **More Documents.** There should be much more information on line. (We would appreciate hearing from you about what information you would like to see added to Info.)
- **Searching.** You should be able to search for documents and menus by specifying key words representing the subject, location, or other characteristics.
- **Interactive information.** Info should support interactive surveys and advice columns.
- **External access.** You should be able to access LUMINA and other information services at the University through Info.
- **Access from microcomputers.** You should be able to use Info from your microcomputer without logging into a central system. For example, a Macintosh interface would let you "point and click" to select information.
- **Access directly from UNIX.** You should be able to type the **info** command on the ACS UNIX systems to access Info.
- **Access from other terminals.** You should be able to access Info from terminals that are not VT100-compatible.

ACS is also working with other units at the University to improve services such as Info. For example, we expect to work with Administrative Information Services to ensure that information accessible from the AIS public informa-

tion system is also accessible through ACS Info, and vice versa. As another example, we hope to work with the Microcomputer and Workstation Networking Center (the Micro Center) to provide an interface to Info that is tailored to microcomputers, such as the Macintosh and IBM-PC compatibles.

Some of this work is already underway, under the guidance of Mark Luker, the acting Chief Information Officer (CIO). The CIO is responsible for coordinating University policies and services regarding computing and electronic information.

All in all, it is an exciting and fulfilling time for those of us developing Info and related services. We hope that you find Info useful.

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# I N F O

*The Calendar continued from page 1*

## Accessing The Calendar

The Calendar is the first major service offered through the new ACS Info system. You can access Info through the University network, as well as dial-up connections using a modem. Anyone with access to a VT100-compatible terminal, personal computer, or workstation, and an appropriate network or telephone connection, can read The Calendar.

## Getting Your Events Into The Calendar

At present, events are entered into The Calendar by ACS staff, working from notices sent in by departments. This is to gain experience and to establish stylistic and other guidelines for notices. You can send notices to The Calendar, Academic Computing Services, 2520 Broadway Drive, Lauderdale, MN 55113. The campus mail address is 100 Lauderdale Computing Facility. We have prepared a form to help you with your notices. Just call or write for a copy.

To find out how to have events posted to The Calendar, call Peter Chandy at (612) 626-1527 or send E-mail to PAC@VX.ACS.UMN.EDU. Or you can use the response capability of Info within The Calendar to request more information.

## Improving The Calendar

Future improvements to the Info system will make The Calendar even more accessible. The Calendar is a prototype; we're still refining it in a number of ways. We expect to make improvements based on our experience and suggestions from users.

We welcome any thoughts you might have about The Calendar.

## Our Newsletter's First Decade: 1966-1975

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**T**his month the *ACS Newsletter* begins its twenty-fifth volume, making this publication one of the oldest continuously published university computing newsletters in the United States.

Our twenty-five volumes represent a partial history of computing at the University. We're observing this anniversary in several issues this year with articles that examine that history. This month we're reviewing our early volumes to see where we've been and how computing here has changed. (We do *not* intend this to be a complete history of any facet of computing at the University.)

### Computing Begins at the University

The history of computing at the University of Minnesota begins well before any newsletter appeared. In this prehistoric period (*circa* 1949), the Institute of Technology (IT) installed a Reeves 100 analog computer (now analogous to the dinosaur) alongside leased IBM tabulating equipment. In 1955 IT supplemented these with time on a UNIVAC 1103 provided by a grant from the Remington-Rand Corporation.

In 1958 the University bought a UNIVAC 1103, the first computer we owned that could actually be programmed internally. That purchase also marked the beginning of the first University computer center, called the **Numerical Analysis Center (NAC)**, which in its first years was a section of the Mathematics Department directed by Professor Marvin Stein.

In 1962 the NAC bought a Control Data Corporation (CDC) 1604 computer, the beginning of the University's long association with that company, and eventually leased additional computer time on a CDC 1604 at Control Data's Service Center in Bloomington. But it soon became obvious that these two 1604 systems couldn't meet the University's rapidly growing computing needs,

so the NAC purchased a CDC 6600 computer in November 1966.

### Notes and Comments

One month before the purchase of the 6600 was completed, the NAC began publishing its newsletter, *Notes and Comments* (Figure 1), which introduced itself to readers with these words: "This issue marks the beginning of a much-needed communication from the NAC. We will try to inform you of what facilities we have to offer and of documents and services available."

In that first issue, just three pages long, the NAC announced the coming installation of the CDC 6600, and provided names and phone numbers of NAC staff. The issue also announced the NAC's **consulting schedule**—60 to 90 minutes of consulting weekdays, for a total of seven hours weekly. All consulting was in person, in the computer room in the old Experimental Engineering building (Figure 2, on page 8), a small building that occupied part of the present site of the EE/CSci Building. There was not yet a HELP-Line—indeed, the early issues *discouraged* users from trying to get answers with a mere phone call, because you needed to bring in your deck of punched cards so the consultants could look at it.

### We Change Our Name (Part I)

A few months later, in February 1967, the CDC 6600 was installed at the University's Lauderdale Computing Facility and remained our most important machine through the period under discussion here. At that time the NAC became a separate department of the Institute of Technology. The new department also changed its name—this got to be a very bad habit later on—and the Numerical

*Newsletter continued on page 8*

## N umerical A nalysis C enter otes nd omments

October, 1966  
VOLUME 1, NUMBER 1

UNIVERSITY OF MINNESOTA  
MINNEAPOLIS, MINNESOTA

This issue marks the beginning of a much-needed communication from the NAC. We will try to inform you of what facilities we have to offer and of documents and services available. If you have any comments or suggestions for future issues, please contact Mrs. Carolyn Carlson, 215 Exp. Eng. or call her at 373-4886. Please see last page for information on mailing list.

### ANNOUNCEMENTS

From time to time the NAC offers various orientation lectures or courses. These will be announced in our Newsletter, or by a circular to our mailing list.

The Numerical Analysis Seminar will meet weekly on Thursdays at 2:15 p.m. in Room 104 Mines Building. For further information, contact Dr. Leavitt, Ext. 5753.

The Hybrid Computer Seminar will meet weekly on Tuesdays from 3:15 to 5:00 in Room 227 Main Engineering. For further information, contact John Munson, Ext. 5757.

The University has purchased a Control Data 6600 computer which will eventually be installed in quarters in the former NSP Computing Center on Highway 280. At present we are running some programs on the 6600 at CDC in Arden Hills.

### CONSULTANT SCHEDULE

The following is the consultant schedule for the Computer Room, 230-A Exp. Eng. Other times consultants are available by appointment.

Mon.	1:30 - 3:00	Mike Frisch
Tues.	2:00 - 3:00	Steve Nordberg
Wed.	1:30 - 3:00	Jim Mundstock
Thurs.	12:00 - 1:30	Richard Franta
Fri.	1:30 - 3:00	Phil Houle

Figure 1: NAC Notes and Comments

*Newsletter continued from page 6*

Analysis Center became the **University Computer Center (UCC)**, although the change did not appear in the newsletter until the August 1967 issue (Figure 3).

In the months following the installation, issues were typically dedicated to explaining aspects of the 6600, which began running in February of 1967, just 52 hours weekly. (If you wanted to compute after 10 pm or on weekends, you were out of luck.) In August '68 we extended these to 70 hours—14 hours a day weekdays, with no computing before noon or on weekends (when civilized people didn't want to compute anyway). But in October we changed hours again, and, at least on Mondays and Fridays, people could compute as early as 8 am. In March 1972, we expanded our schedule further, offering computing 20 hours a day weekdays, with limited hours on weekends, and these hours continued substantially unchanged through 1975.

In March of 1974 we replaced the 6600 with a more powerful CYBER 74.

## Some Familiar Services Begin

When the 6600 was installed, the new department offered users more help in programming and setting up the punched card decks to the new machine. In the December '66 issue, we find the first announcements for **short courses**, all on using the 6600. (But we had offered courses long before the newsletter was ever published.) Later quarters also emphasized the 6600. This gradually changed, giving way to courses on programming languages, especially Fortran. The same emphases, first on the 6600 system, then on programming, dominated newsletter articles.

*Newsletter continued on page 10*



**Figure 2: Experimental Engineering**

(Photo by Dick Hotchkiss)



## U N I V E R S I T Y C O M P U T E R C E N T E R

### NOTES AND COMMENTS

Volume 1, No. 11  
August, 1967

UNIVERSITY OF MINNESOTA  
MINNEAPOLIS, MINNESOTA

#### New Forms

Effective immediately, a new form is to be used in requesting access to the facilities of the University Computer Center. Copies of this form and a sheet of instructions explaining its use are available at the Center. All new requests for computer time must be made on these forms. One new feature which should be noted is that a separate form and a separate authorization is required for each facility used with the exception of the closed shop tabulating facilities. For the convenience of users who already have open problems and are using both the 6600 and the 1604 complexes, separate problem numbers will be issued for the two. These number assignments will be made without requests from the users, but the new numbers should be used as soon as the problem sponsor is notified.

Another new form is to be used by problem sponsors who are requesting use of the facilities but have no funds to pay for computer time. This form is an application for a grant of subsidized time. All access requests in which no source of funds is given or for which only partial funding is provided should be accompanied by one of these applications. In all cases a source of support for supplies (printer paper, cards, and the like) must be given.

#### 1604 Scheduling

As rapidly as possible the major burden of computing at the University Computer Center is being shifted from the Control Data 1604 computer to the Control Data 6600. The 1604 will continue in operation during the fiscal year 1967-68, but its primary function will be as an educational utility for students enrolled in classes which are authorized to use the Center's facilities. The bulk of the computing time during the day will be devoted to express runs of short student problems. The Center expects to give very rapid turn around in these runs and normally a student will submit his problem and wait for the output. These express runs will enable the Center to provide highly efficient service to the many students currently using the computer. It will also enable individual students to obtain several runs a day.

Before and after the beginning of fall quarter the Center will offer

**Figure 3: UCC Notes and Comments**

*Newsletter continued from page 8*

In its first five years, this newsletter was a modest and somewhat irregular publication. Typed and mimeographed on single-sided pages, issues were from 1 to 14 pages long, volumes were 42 to 69 pages a year. Some months, when necessary, we published two issues; other months, none. The first year, issue 1 appeared in October 1966, but Volume 2 began in November 1967, Volume 3 in October 1968, Volume 4 in November 1969, and Volume 5 in January of 1971. From then on, new volumes always began in January.

In March '67, we expanded in-person consulting to 21 hours a week, and these hours continued to expand and contract as needs changed. Near the end of the fifth year, October '71, we had extended consulting hours to 38 hours weekly, and this had expanded to 54 hours by the end of 1975. On February 10, 1975, we began our HELP-Line.

By November of 1968 we had also established a small reference library, which by 1974 had become a Reference Room in 235 Experimental Engineering.

## Early Software

In November 1969 we announced the forthcoming University of Minnesota Fortran compiler—MNF, a successor to a related compiler on the 1604—available to users in December. Programming, especially Fortran programming, dominated computing through the first years, so there are very few references to any kind of applications software in the early newsletter volumes.

In June 1971 we announced the first short course on SPSS, which we made available on the CYBER 6600 in August of that year. Later we installed BMD and OMNITAB. From that point, short courses on applications packages, chiefly statistics packages, became an important part of our course schedule.

## Cards and Terminals

Nearly all computing discussed in *Notes and Comments* during the first five years was, of course, done with punched cards, and the fashion-conscious could buy cards in seven different colors; more flamboyant users could buy cards with stripes in any of nine colors. (Actually, the colors served a purpose, helping users to organize large decks.) Until March 1970, we made small quantities of cards available free.

With its computers located at Lauderdale, UCC had to have remote input/output. The first two high-speed stations were installed on East Bank in fall of '67 and on West Bank in '68. And in April of '72 UCC installed medium-speed terminals at several other campus locations.

In this early example of what we now call distributed computing, users no longer had to go to Experimental Engineering or Lauderdale to do their computing. They could submit their card jobs to the 6600 from the remote terminals and receive output from nearby line printers.

Timesharing computing was announced in July 1968, but this was available only through a contract with private-sector computer centers. Departments assumed all costs, including their own hardcopy terminals. When we established a computing station on the West Bank in October '68, that included four CRT terminals connected to a CDC 3200 system. From then on, computing at terminals became increasingly common.

## MERITSS Begins

In 1970 the governor of Minnesota requested a study of the state's computing needs. One recommendation that emerged from that study proposed a state educational timesharing system.

By fall of 1971 the Higher Education Coordinating Commission established a statewide educational computing network; managed by UCC, this network was

called the Minnesota Educational Regional Interactive Time-Sharing System, still remembered by many readers of this newsletter as MERITSS. MERITSS provided instructional computing time on a CDC 6400 computer at Lauderdale to the University, state junior colleges and private colleges, and, eventually, state colleges, some high schools, and some schools in North Dakota, Wisconsin, and Nebraska.

## Familiar Names

From the first issue of this newsletter, in October '66, we find names that are still familiar to University computer users: Mike Frisch was the Monday consultant. Richard Hotchkiss was Chief of Library Development. Users who found bugs in programming language compilers were told to contact Larry Liddiard, Chief of Programming Systems.

Other familiar names make their first appearances later. In the September '68 issue, we're told that the responsibility for accumulating a library of social sciences software has been assigned to Michael Skow. In February 1973, we find Shih-Pau Yen introduced as senior statistical programmer and in October we're told that Bruce Center

would be teaching a statistics class. In the March 1975 issue, Jerry Larson explained Operations policies.

Meanwhile, the names at the top changed. Professor Stein resigned in June 1970, and Richard Halverson became acting director. Our July '72 issue announced that Peter Patton, a coauthor of the 1970 study of state computing needs, had been selected UCC's new director. He would retain that post into the next decade, overseeing some important changes in University computing.

## Coming Changes

As we've seen, research and instructional computing began at the University well before this newsletter appeared. In the first ten years of this newsletter, we see the beginnings of time-sharing, networking, and essential user services including the HELP-Line and support for applications packages. These services would, of course, continue and evolve in quantity and scope.

Meanwhile, many topics now familiar to us—micro-computers, electronic mail, and others—were not yet part of the picture, but they would soon appear, as we'll see in a future article.

## ACS Hours for January

### Systems

Our systems will be running and staffed on Martin Luther King Day, Monday, January 21.

At all other times, our system hours will be the normal hours listed on the inside back cover of each issue of this *Newsletter*.

### Offices

Our Lauderdale offices (including Engineering Services) and our consulting offices will be closed on Monday, January 21. Our facilities in 1 Nicholson Hall will also be closed.

At all other times we will observe our normal office hours: The Lauderdale front desk and Engineering Services will be open from 8 to 4:30 Monday through Friday. Normal hours for our consulting offices and the Computing Information Center are listed in the Help Page in each issue of this *Newsletter*.

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## Conventions

Throughout this and other ACS publications, we have adopted these conventions:

- Messages and prompts from the ACS computers appear in plain type, like this.
- Words that the computer systems replace with a specific name, value, or other information appear in *italic type*, like this.
- Commands you type at your terminal keyboard appear in **bold face type**, like this.
- Words that must be replaced by a specific name, value, or command that you type in appear in **bold italic type**, like this.
- Comments to interactive sessions and program files are enclosed in { curly braces, like this }.

Here's an example:

**SAVE, filename**

is a command you type in. You type **SAVE** and replace *filename* with the name of your file. The system may respond with the message

*filename* ALREADY PERMANENT { An example of a system message. }

where *filename* will be replaced by the name of the file you attempted to save.

- The symbol <CR> refers to the carriage return (or RETURN) key on the terminal. The <CR> serves as a terminator for commands you type at your terminal. In most cases we do not show <CR>; we assume you know to type it after every command.

## AppleShare-PC File Server Running on ACS's UX System

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**R**ecently we enhanced the ACS UNIX AppleShare server software to support MS-DOS file systems running on IBM-PC and compatible computers. This makes it possible for those who have such systems to store and/or back up their MS-DOS files to the ACS UNIX system, UX.

The advantage of storing your files on the UX is that you have access to much more disk storage than you have on your PC. In addition, all files moved to the UX are backed up to magnetic tape regularly. This gives you a way to back up your important files; simply copy them to the AppleShare volume that has been set up on UX and they will be available there when you need them.

### Hardware Requirements

To communicate with the AppleTalk internet, your PC must be connected to the campus Ethernet backbone network via a Kinetics FastPath gateway. If you aren't sure if it is connected, talk to your local network administrator. You will also need to purchase the AppleLocalTalk PC Card from the University Bookstore. This card comes with the necessary software (AppleShare-PC Version 2.0). You will also need a minimum of 256K (640K is recommended) and two disk drives (one of which may be a hard drive).

### Connecting to AppleShare Server

The AppleShare file server is located in the AppleTalk zone ACS and is named ACS-ENCORE. Invoke the Desk Accessory program (DA) and use the Chooser menus to select the AppleShare type, the ACS zone, and the ACS-ENCORE file server. You must then log on the server by pressing the F2 key on your PC.

You then specify that you want to connect to the server as a Registered User (as opposed to a Guest) and type in the user name and password of your UX account (see below). After typing the requested information, press the F2 key again.

After you've connected to the server, you're presented with a list of AppleShare volumes that you can mount. Select the appropriate volume and drive letter you want to connect to. After typing the requested information, again press the F2 key. Now you should be able to leave the Desk Accessory by pressing the ESC key and use the volume you set up just as you would any other DOS volume (type its drive letter).

At this time you cannot copy over files that are already on the file server; first delete the files on the file server and then copy over the new files.

Please refer to the AppleShare-PC reference manual for details on how to install the software on your system and how to invoke the Desk Accessory program.

### Setting up AppleShare-PC

If you do not already have an account on the UX system you can get one by calling ACS Accounting at 625-1511. If you are going to use the account only for running AppleShare, you can have the account set up for you so that the proper AppleShare directories are already in place. If so, you don't need to read the remainder of this article. If you already have an account or want to set up the AppleShare directories yourself, read on.

You specify which UNIX subdirectory should be used to hold your AppleShare volume by putting a file named `afpvols` (or `.afpvols`) in your home directory on the UX.

The `afpvols` file contains one line for each AppleShare volume. Here is an example of an `afpvols` file:

```
~/PC_Files:Encore
```

In this example, the directory named `PC_Files` in the user's home directory (`~/PC_Files`) is used as an AppleShare volume. On the PC this volume is referred to by the drive letter that you assign to it.

Typically you would create the `afpvols` file by using a UNIX text editor. Once you have told the AppleShare server software on the UX that it should treat the `PC_Files` subdirectory as an AppleShare volume, you need to create the subdirectory. You can do this with the UNIX `mkdir` command:

```
mkdir ~/PC_Files
```

Once you've set up the directories, you will not need to set them up again. After you've set up the volume(s), you can use them without any further UNIX commands.

---

## LINDO Correction on VX

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**O**n December 17, we made a minor correction to the LINDO linear programming package on VX. When input lines are longer than 132 characters, LINDO formerly aborted with this VMS error message:

```
%FOR-F-ERRDURREA, error during read.
```

We have revised the code to give this new error message:

```
WARNING: MORE THAN 132 CHARACTERS IN  
LINE. LINE IGNORED.  
REENTER LINE AND USE CARRIAGE RETURN  
TO BREAK UP OVER SEVERAL INPUT LINES.
```

Thus, input lines longer than 132 characters are completely ignored. Just re-enter them but break them up into shorter segments, each on a separate line. Be sure to end each line at a proper breakpoint, not in the middle of a command or variable name.

# LINDO

# Free Text: A Concordance Program for the Macintosh

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RAX@VX.ACS.UMN.EDU

**F**ree Text is a public-domain text analysis package written for the Mac by Mark Zimmermann. ACS is distributing the program *free*.

Free Text consists of two programs: an index builder and a concordance browser.

The *index builder* prepares your text document by creating a list of each distinct word, the number of times it occurred, and pointers to each occurrence of that word.

The *concordance browser* uses this index to perform fast searches of your text file. The browser's display consists of three panes as shown in **Figure 1**. (Although not shown in the simplified figure, all panes have standard Macintosh scroll bars.)

**Pane A** displays an index of words that occurred in the text and their frequency. When you click on a word in this

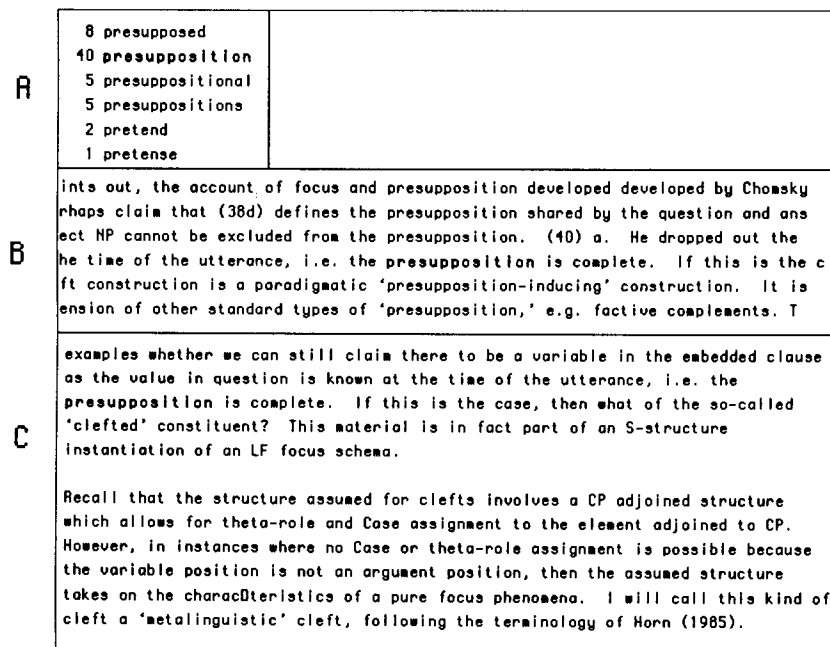
pane, the occurrences of that word along with surrounding context appear in **Pane B** (similar to the key-word-in-context display of GENCORD). For example, when I clicked on the word *presupposition* in **Pane A**, **Pane B** displayed all occurrences of that word. If you click on a line in this pane, **Pane C** will display the surrounding text of that occurrence.

You can also conduct more complex searches. For example, you can ask for a list of occurrences of the word *focus* that occurred near the word *presupposition* and you can define what you mean by *near* (e.g., within 12 words, within 100).

Free Text was designed for interactive exploration of a text. If you are interested in producing a printed concordance, GENCORD (available on our VAX central system and for the IBM-PC) would be a better program to use. Free Text will work on any Mac that has a hard disk and HyperCard.

If you have any questions about Free Text, GENCORD, or text analysis in general, or if you would like to obtain a free copy of this program, contact

Special Projects Group  
1 Nicholson Hall  
625-8332



**Figure 1: The Browser Display**

## Short Courses

### Free Central System Computing Courses Winter 1991

Offered by St. Paul Computing Services (SPCS), Academic Computing Services (ACS),  
and Health Sciences Computing Services (HSCS)

Our courses teach you the operating systems and software on **central system** computers, large systems used by many people at the same time. These courses do not cover microcomputer software unless otherwise indicated in the following descriptions.

#### How to Register

To register call 626-0032, 8:00 am to noon and 1:00 to 4:30 pm, Monday through Friday.

Registration is located at the Computing Information Center, 1 Nicholson Hall. Mail registrations are accepted or you can also register by electronic mail—write to [classes@umnacvx](mailto:classes@umnacvx) or [classes@vx.acs.umn.edu](mailto:classes@vx.acs.umn.edu). Include a day-time phone number. Please call to cancel if you later decide not to attend, so we know how many to expect. Deadline for registering is 4:30 pm on the last working day before the class begins.

#### General Courses

##### User Orientation (SPCS)

One section: Tuesday, January 29, 9:30-11:30 am  
Overview of SPCS's hardware, software, and services.

#### Operating Systems

##### CMS Introduction (SPCS)

Two sections: Wednesday, January 30 and Friday,  
February 1, 9:30-11:30 am  
Wednesday, January 30 and Friday,

February 1, 1:30-3:30 pm

Hands-on training in CMS, the operating system on the SPCS and Carlson School of Management machines.

##### CMS BATCH (SPCS)

One section: Wednesday, February 6, 9:30-11:30 am  
Why, when, and how to submit programs to BATCH. You must know the CMS operating system.

##### CMS Tapes (SPCS)

One section: Wednesday, February 20, 9:30-11:30 am  
Specifying, reading, and writing tapes. You must know the CMS operating system.

##### Introduction to VAX/VMS Operating System (ACS)

One section: Tuesday and Thursday, January 22-31,  
2:30-4:30 pm  
An extensive introduction to the VMS operating system, including files, editing, mail, DCL commands, and procedures.

##### UNIX Overview (ACS)

Two sections: Wednesday, January 16, 2:30-5 pm  
Tuesday, February 5, 2:30-5 pm  
A beginning look at the UNIX operating system: structure, commands, utilities, and editing.

##### vi: UNIX Editor (ACS)

Two sections: Wednesday, January 23, 2:30-5 pm  
Thursday, February 7, 2:30-5 pm  
Editing files in UNIX in line mode (ex) or screen mode (vi): commands and setup. You must know the UNIX operating system.

##### Introduction to NOS/VE Part 1 (HSCS)

One section: Wednesday, February 20, 2:00-4:00 pm  
Connecting to NOS/VE, entering commands, managing files, obtaining output, and on-line help.



## **Introduction to NOS/VE Part 2 (HSCS)**

Two sections: Thursday, January 17, 10:00 am-noon  
Wednesday, February 27, 2:00-4:00 pm  
Batch jobs, printing options, job/command control, special files, and file transfers on the NOS/VE operating system.

## **NOS/VE Full Screen Editor (HSCS)**

Two sections: Tuesday, January 29, 10:00 am-noon  
Tuesday, March 19, 2:00-4:00 pm  
Creating and editing NOS/VE files, expanded on-line help for each function, and customized functions. You must know the NOS/VE operating system.

## **Communications**

### **CMS Electronic Mail (SPCS)**

Two sections: Thursday, January 31, 9:30-11:30 am  
Tuesday, March 5, 9:30-11:30 am  
Corresponding with other computer users locally and worldwide, via BITNET.

### **Internet Overview (SPCS)**

One section: Thursday, February 21, 10:30-11:30 am  
Using the CMS central system to log on to and transfer files to/from other computers on the Internet.

### **YTERM (SPCS)**

One section: Tuesday, February 12, 10:30-11:30 am  
Demonstration of the YTERM terminal emulation package, as used with the CMS operating system.

### **ProComm (SPCS)**

One section: Tuesday, February 19, 10:30-11:30 am  
Demonstration of the ProComm terminal emulation package, as used with the CMS operating system.

### **TinCan (SPCS)**

One section: Tuesday, February 26, 10:30-11:30 am  
Demonstration of the TinCan terminal emulation package, as used with the CMS operating system.

### **ProComm-Computing by Phone (ACS)**

One section: Tuesday, January 15, 2:30-4:30 pm  
Using ProComm microcomputer software to connect to

LUMINA and other campus central system computers, and to upload and download files.

### **Electronic Mail & Networks (ACS)**

One section: Tuesday and Thursday, February 12-14, 2:30-4:30 pm  
Descriptions of the BITNET and Internet networks, and how to use them for electronic mail and transferring files, with emphasis on the VAX VMS system. You must know a central computing system.

### **Electronic Mail on NOS/VE (HSCS)**

Two sections: Wednesday, January 30, 2:00-4:00 pm  
Thursday, March 14, 10 am-noon.  
Using the E-mail system on NOS/VE to send and receive mail, transfer microcomputer files, and use bulletin boards and networks.

## **Statistics**

### **SAS/Base (SPCS and ACS)**

One section: Tuesday, February 5, 9:30-noon and Thursday, February 7, 9:30-11:30 am  
The essentials of the SAS statistical package for analysis, data storage and retrieval, report writing, graphics, and more. You must know either the CMS or VMS operating system.

### **SAS/Stat (SPCS and ACS)**

One section: Thursday, February 14, 9:30-11:30 am  
The statistical analysis features of SAS, such as correlation, regression, and analysis of variance. You must know either the CMS or VMS operating system.

### **Using SPSS (SPCS, ACS, and HSCS)**

One section: Monday, Wednesday, and Friday, January 28-February 1, 2:30-4:30 pm  
How to use the Statistical Package for the Social Sciences, available on several central computing systems. You must know a central computing system.

### **PC SAS Overview (SPCS)**

One section: Thursday, March 7, 9:30-11:30 am  
Discussion of features specific to the IBM-PC version of SAS.

## Short Courses

### Databases

#### **NOMAD2 (SPCS)**

One section: Friday, February 22, 9:30–11:30 am  
Demonstration of NOMAD2, a database management system on the CMS operating system.

#### **INGRES (ACS)**

One section: Monday and Wednesday, February 11-20, 2:30-4:30 pm  
Creating databases and retrieving information from the INGRES database package. You must know the VMS operating system.

### Graphics

#### **SAS/GRAPH (SPCS)**

One section: Thursday, February 28, 9:30–11:30 am  
Exploring SAS graphics for presentation of your data as plots, charts, maps, and contour plots. You must know the CMS operating system.

#### **PicSure Interactive Graphics (HSCS)**

Two sections: Tuesday, January 15, 2:00-4:30 pm  
Tuesday, March 26, 2:00-4:30 pm  
Using PicSure to create bar charts, scattergrams, line charts, pie charts, and combinations. Demonstrated on the NOS/VE operating system.

### MinnesotaMEDLINE

(Call the Bio-Medical Library at 626-5808 for information on class times and registration procedures.)

#### **Basics of MinnesotaMEDLINE Searching (HSCS)**

Five sections: Wednesday, January 23, 2:00-3:45 pm  
Thursday, February 7, 5:00-6:45 pm  
Tuesday, February 19, 1:00-2:45 pm  
Monday, March 4, 10-11:45 am  
Tuesday, March 19, 9:00-10:45 am

Basic commands and the use of Medical Subject Headings (MeSH) in on-line medical literature searching.

#### **Intermediate MinnesotaMEDLINE Searching (HSCS)**

Two sections: Thursday, January 17, 9:00-10:30 am  
Wednesday, January 30, 1:00-2:30 pm  
The more advanced and powerful searching capabilities of the MinnesotaMEDLINE system.

### Other

#### **PROFS Calendars (SPCS)**

One section: Friday, February 15, 9:30–11:00 am  
Viewing, maintaining, and changing your electronic calendar on the CMS operating system.

#### **C Programming (ACS)**

One section: Monday, Wednesday, and Friday, February 25-March 1, 2:30-4:30 pm  
Introduction to syntax, style, and structure of the C programming language. Requires some programming background. You must know the UNIX operating system.

**Free  
Central System  
Computing  
Courses  
Winter 1991**

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**Public Labs Connected to ACSnet  
Twin Cities Campus**

Location	Central System Printing	Terminals	Micros	Phone Numbers	Hours: Weekday	Hours: Weekend
<b><u>East Bank</u></b>						
207 Diehl Hall	laser printer	X	X	624-3128	M-Th 7 am-1 am F 8 am-1 am	Sat 8 am-8 pm Sun 11 am-1 am
4-204 EE/CSci	laser printer	X		625-9081	8 am-11:45 pm F 8 am-7:45 pm	Sat 8 am-11:45 pm Sun 10 am-11:45 pm
121 Elliott Hall	impact/laser printer	X	X	624-0866	M-Th 8am-10 pm F 8 am-6 pm	Sat 10 am-6 pm Sun 4 pm-10 pm
14 Folwell Hall	laser printer	X	X	625-4896	M-Th 8 am -10 pm F 8 am-6pm	Sat 10 am- 6pm Sun 4 pm-10 pm
1 Lind Hall	laser printer	X		625-0801	M-Th 8 am-10 pm F 8 am-5 pm	Sat noon-6 pm Sun 6 pm-10 pm
308 Mechanical Eng	laser printer	X		625-7352	M-Th 8 am-midnight F 8am-7 pm	Sat 9 am-7 pm Sun 6 pm-midnight
1 Nicholson Hall	laser printer	X		625-5082	M-F 8 am-10 pm	Sat 10 am-2 pm Sun closed
130 Physics	laser printer	X		625-6820	M-Th 8 am-10 pm	Sat 10 am-6 pm Sun 4 pm-10 pm
9 Walter Library	laser printer	X	X	626-1899	M-Th 8 am-midnight F 8 am-10 pm	Sat 10 am-6 pm Sun noon-midnight
<b><u>West Bank</u></b>						
170 Anderson Hall	laser printer		X	624-6526	M-Th 8 am-midnight F 8 am-10 pm	Sat 10 am-8 pm Sun noon-11:30 pm
140 Blegen Hall	impact printer	X		624-5278	M-Th 8 am-11:30 pm F 8 am-9:30 pm	Sat 10 am-7:30 pm Sun noon-11 pm
B2 Wilson Library	laser printer		X	626-2205	M-Th 8 am-midnight F 8 am-10 pm	Sat 10 am- 8 pm Sun noon-11:30 pm
<b><u>St. Paul</u></b>						
B40 Central Library		X		624-3269	M-F 8 am-10 pm	Sat 10 am-2 pm
B50 Central Library	laser printer		X			Sun 6-10 pm

Micros in public microcomputer labs that are connected to AppleTalk can access ACSnet. There are also public terminals in the following residence halls: Bailey Hall, Centennial Hall, Comstock Hall, Frontier Hall, Middlebrook Hall, Pioneer Hall, Sanford Hall, Territorial Hall.

# Help Page

## ACS HELP-Lines

### Central Systems (UX,VX,VZ,CA):

Software (including Graphics, Databases, and Statistics Packages), Hardware, Networking

626-5592 8 am to 5 pm, weekdays

### Artificial Intelligence:

625-8332 3 to 4 pm, Monday, Wednesday, Friday

### Humanities, Text Analysis:

625-8332 3 to 4 pm, Monday, Wednesday, Friday

### Equipment Repair:

625-1595 8 am to 4:30 pm, weekdays

### Lauderdale Tape Library:

626-1838 9 am to 3 pm, weekdays

---

## Other HELP-Lines

### Health Science Computing Services:

5-235 Moos Tower

625-2666 7:45 am to 4:30 pm, weekdays

### LUMINA (communications questions):

626-2272 8 am to 5 pm, weekdays

### Microcomputer and Workstation Networks Center:

125 Shepherd Lab

626-4276 9 am to 4 pm, weekdays

### St. Paul Computing Services:

90 Coffey Hall

624-6235 9 am to 5 pm, Monday through Thursday; 9 am to 4 pm, Friday

## Consulting

### Walk-In Consulting

1 Nicholson Hall 10 am to 4 pm, Monday through Friday

### Electronic Mail Consulting

Consulting is now available via the mail facility on all ACS systems (the UX, VX, VZ, and CA). Send mail to user name CONSULT for questions after hours and for low-priority questions that are not critical to your immediate computing work. Replies will be sent to your account through the mail facility on your system.

### Instructional Computing Consultant

Department instructors may call 626-0200 for assistance in choosing ACS systems (ENCORE/UNIX, VAX/VMS, CYBER/NOS), software, and for answers to any other inquiries on using computers for instructional computing.

---

## Computing Information Center

1 Nicholson Hall, 625-7397

MAD@UMNACVX, MAD@VX.ACS.UMN.EDU

**Computing account and grant applications** available for ENCORE, VAX, and CYBER computers.

**Short course enrollment.** Short course schedules and class descriptions available. Call 626-0032.

**Assistance in ordering vendor documentation.** Vendor documentation is not always available in the University bookstores and may be ordered directly from the company.

**Complete documentation collection.** Reference copies of vendor and all other documentation for ACS software.

**Free ACS documentation.** General information and central system information available.

**Computing Newsletters.** Subscribe to the *ACS Newsletter*. Newsletters from other computing centers are also available for reference.

## ACS Directory

100 LaudCF (campus mail)	626-1600	LaudCF: Computer Consoles	626-0550
FAX	626-7440	File Restoration	626-0595
Director—Michael Skow	625-6349	Magnetic Media Lib/Operations (9 am-3 pm)	626-1838
Deputy Director—Lawrence Liddiard	625-4016	Operations Coordinator	626-1646
Adm. Assistant Dir—James Foster	625-1511	Services (tapes, laser disks, CD ROMs, Xerox, plotters) Supervisor	626-1661
Access: ACS systems (UX, VX, VZ, CA)		Users' room	626-0386
3/12/2400 bps + 7/Even/1	626-1630	Networking—Paul Tranby	626-0815
12/2400 bps + 8/None/1	626-1631	Newsletter and Publications:	
Accounts: (8 am-12 pm, 1-4:30 pm)		ACS newsletter subscriptions	625-7397
ENCORE, VAX, CYBER	625-1511	Technical Publications—Steven Brehe	626-1828
Assistance and Information:		NOS Systems—David Bianchi	626-1827
HELP-Line (including Graphics, Databases, Statistics Packages, and Text Processing)	626-5592	Operations, Asst Director—Richard Folden	626-0031
Equipment repair	625-1595	Programming Environments—Jim Miner	626-1091
Computing Information Center	625-7397	Shuttle Service	625-9525
Short Course Registration	626-0032	System Status (recording) status and hours	626-1819
Artificial Intelligence	625-8332	UNIX systems—David Bianchi	626-1827
BITNET/Electronic mail	625-1543	User Services—Richard Hotchkiss	625-0795
Faculty Instructional Computing	626-0200	VMS Systems—Marisa Riviere	626-0268
Humanities/Text Analysis	625-8332		
Math and Engineering Packages	625-5830		
Contract Services—Cheryl Vollhaber	625-2303		
DEC CSLG/ESL Software Distribution	626-0268		
Engineering Services, LaudCF	625-1595		
Asst Director—Donald Clark	625-1583		
Equipment Maintenance/Repair	625-1595		
Info/Public Information Service	626-1527		

### Other University Computing Services

Health Sciences Computing Services	625-5444
Microcomputer and Workstation Networks Center	625-1300
St. Paul Computing Services	624-7788

## Central Computing Systems

The UX research and instructional system, an ENCORE Multi-max multiprocessor running the UMAX 4.3 operating system (4.3 BSD UNIX).

The VX research and instructional cluster: a Digital Equipment Corporation VAX 6000-510 clustered with a VAX 6400 using the VMS 5.4 operating system.

The VZ system for non-University users: a Digital Equipment Corporation VAX 3100 using the VMS 5.4 operating system. The VZ is part of the VMS cluster system.

The CA research and instructional system: a Control Data Corporation CYBER 830, using the NOS 2 operating system. The CA provides interactive and batch computing for University researchers and students.

## Operating Hours

The ENCORE UX, VAX VX, VAX VZ, and CYBER CA systems run continuously from 6 pm Sunday until 6 am the following Sunday.

On the second and fourth Fridays of each month from 5 am to 7 am the CYBER CA system is unavailable. Low-rate hours are from 8 pm to 8 am Monday through Friday, and all operating hours on Saturday and Sunday.

## Accounts

To use our central computer systems, you need a user name. This user name (with a secret password) is your authorization to use the computer systems. You can get application forms and rate information from ACS Accounting, 100 LaudCF (625-1511).

## ACS Newsletter Subscription Request

Send to ACS Computing Information Center, 1 Nicholson Hall, 216 Pillsbury Drive SE, Minneapolis, MN 55455

Add

Cancel

Change

Name \_\_\_\_\_

### Campus Mail (You must provide your department's name and departmental address.)

Department \_\_\_\_\_

Room \_\_\_\_\_ Building \_\_\_\_\_

### U. S. Mail

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

### Change/Old Address

Department \_\_\_\_\_

Room \_\_\_\_\_ Building \_\_\_\_\_

Address \_\_\_\_\_

### University of Minnesota Affiliation

Department

Faculty

Staff

Student

Alumni

Other

# acs

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UNIVERSITY ARCHIVES  
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