BCIT COMPUTER RESOURCES

Newsletter

85:09:03
VOLUME 4 NUMBER 1

IN THIS ISSUE

BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY
3700 Willingdon Avenue, Burnaby, B.C. Canada V5G 3H2

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* PERSONNEL *
****

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John Fairley (Released Faculty).....8538
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DIAL-UP TO COMPUTERS
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* PUBLISHING INFORMATION *
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The Computer Resources Newsletter is published by the Computer Resources Department of BCIT.

Contributions to the Newsletter and comments from our readers are welcome. Address correspondence to:

Editor, Computer Resources Newsletter,
BCIT Computer Resources Department,
3700 Willingdon Avenue,
Burnaby, B.C. V5G 3H2

Subscription changes may be requested by completing the form on the last page. You are subscribed if your name appears on the label attached to the Newsletter. The next issue is planned for 85:12:03.

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* FACILITIES *
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IBM 3083-EX1
- 24 megabyte main memory
- fourteen 571 megabyte disk drives
- four 1600/6250 BPI tape drives
- 288 terminals and two CAD workstations
- VM/CMS and VSE operating systems
- batch and online processing
- academic and administrative processing

Hewlett-Packard (HP) 3000/64 minicomputer
- 2 megabyte main memory
- 64 terminals
- one 404 megabyte disk drive
- one 64 megabyte disk drive
- one 1600 BPI tape drive
- MPE operating system
- introductory programming and application package training

Microcomputers
- twenty (20) Apple II+
- seven (7) IBM PC
- twelve (12) Zenith Z-150
- student instructional use

Intergraph System
- DEC VAX 11/751 Central Processing Unit
- 5 megabyte main memory
- two 300 megabyte removable-pack disk drives
- one 160 megabyte Winchester-type disk drive
- one 1600 BPI tape drive
- ten single-screen graphics workstations
- one dual-screen graphics workstation
- ten alphanumeric terminals
- three desk-top electrostatic plotters
- one 24-inch electrostatic plotter

Further information:
- IBM, HP and microcomputer facilities:
  contact Lee Korman (local 8351)

Locations

IBM 3083:

Student Terminal Labs:

IBM 3278	2N329
Memorex 2078	2N419
Televideo 950	2N420/421
IBM 3178 and IBM 3279	2N327
IBM 3250 CAD stations	2N319

Faculty Area (Computer Resources Foyer):
one HP125 terminal,
one IBM 3178 terminal,
one Televideo 950 terminal 2N210

HP3000:

Student Terminal Labs.....2N322/2N325

Microcomputers

*APPLE Cart	Library
APPLE Student Lab	2N321
IBM PC/Zenith Student Lab	2N318

Intergraph System Labs 1P101,1P102

*Access to the Apple Carts can be arranged at the Library Reference Desk.

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* EDITORIAL MESSAGE *
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Welcome back! This coming school year promises to be an exciting one with the merging of the PVI and BCIT operations. We, in Academic Systems, are anxious to take on this new challenge. With no prior experience with PVI instructors, we are starting off completely fresh.

We would like to welcome Roy Murray, the new President, to BCIT. Roy Murray is no stranger to Computer Resources since he accessed BCIT's PROFS system from Lloydminster, Alberta with his IBM PC/XT during the early part of the summer.

With this issue, PROFS users have been added to the Newsletter mailing list. This was done so that Computer Resources produces only ONE newsletter instead of many, each targetted to a specific user group. This is why you received this issue if you are a PROFS user. If you do not wish to receive future issues, fill in the form on the back page and send it to me.

While the primary audience remains the faculty, articles of interest to administrative users will be printed.

For the benefit of new readers, the purpose of the Newsletter is to inform you of changes in Computer Resources' hardware, software and policies so that you can use the computing facilities more effectively. We also publish tutorial articles on supported application software and on new applications of computing technology appropriate to BCIT.

The Newsletter is the first level of references published by Academic Systems to aid in using BCIT's computers. The second level of references are the User Guides (manuals) describing BCIT's software. If you refer to the Newsletter and the appropriate User Guide, you will often find answers to your questions.

The Newsletter is NOT a publicity vehicle although we are using it to explain the functions of various groups within Computer Resources. The purpose is to give faculty members an idea of how to work with large computer centres.

Most of the systems analysts in Academic Systems are not "pure" computer scientists. Each has come from, or has studied, an application area before settling down in computer systems analysis. We remain current in our fields of interest and are well qualified to advise on the application of computing technology.

However, our expertise does not span all the fields of BCIT's departments. This is where the Released Faculty person can help us. We can certainly learn from him just as he will learn about computer systems from us.

Speaking for myself, I can relate well to the new Released Faculty person, John Fairley, from Mining Technology. I grew up in a small forestry and coal mining town -- Cumberland, B.C. on Vancouver Island. Sixteen years ago, I worked as a summer surveying assistant for United Keno Hill Mines -- way up north at Elsa, Yukon Territory. At that time, United Keno's parent company, Falconbridge Nickel, was just beginning to apply computers to mining operations. With the miniaturization of computers, computing technology is now available to every mining company, no matter how small!

A few delays to the planned hardware and software changes to the IBM mainframe system have occurred. These are described in the HARDWARE and SOFTWARE CHANGES sections.

In this issue, we focus on "office automation". While secretarial staff receive little recognition in many organizations, Academic Systems have relied greatly on their assistance and we hope that the article on their role will highlight their contribution to introducing office assistance software to BCIT.

The User Help Centre, the newest section of Computer Resources, will assist the introduction of office automation techniques to the administrative and academic offices of the Institute. See the articles on pages 5, 6, 8 and 9.

As a final note, it is obvious that we have made changes to the Newsletter. Following the lead of SFU and UBC, we have simplified the front page design.

The Newsletter master copy is printed on a HP LaserJet printer using the compressed lettering mode. The text was prepared, as in the past, with XEDIT and SCRIPT. The ability to change font styles and print modes easily within a document will be available once SCRIPT macros are written. The HP LaserJet, originally designed for microcomputers, is capable of printing a variety of fonts.

Using the HP LaserJet greatly simplifies the production of the Newsletter. The "cut and paste" and copy reduction operations are done as a single operation with SCRIPT and the HP LaserJet printer.

In closing, I would like to remind you that comments on our articles or contributions to the Newsletter are welcome. We had an exchange of ideas between Mike Scriabin, Computer Systems Technology and Bill Tupper, the former Released Faculty person, last spring. I hope this interest will continue.

Dan Low, Editor

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* NOTICES *
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People Changes in Academic Systems

Murray Smith

Many of the faculty who have worked with Murray Smith over the last year will be disappointed to hear that he has left the Academic Systems group. The good news is that he hasn't left the Institute. He is now working in the Administrative Systems group and is specializing in FOCUS (a fourth generation language) applications. Murray's replacement, Craig Larman, will start in September.

John Fairley

The Released Faculty position in Academic Systems has been filled by John Fairley, Program Head for Mining Technology. John joined the group effective 85:08:12 and can be contacted at local 8538.

Watch the next issue of the Newsletter for an update on John's projects. And thanks to Bill Tupper (Surveying) for his contributions as Released Faculty for last year.

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Hardware Problem Report

After the power shutdown of 85:07:27/28, the computer operators were unable to restore computer services. After several unsuccessful attempts at restarting the computer, IBM was called for assistance. IBM worked on the system from 20:00 hours (10:00 P.M.) on Sunday,85:07:27, until 23:00 hours on 85:07:28. Problem diagnosis was complicated due to a randomly moving failure which was finally isolated to a cable running between the IBM 3083 CPU and the IBM 3082 Power Unit. The impact on the user community was the loss of one full day of production. It is impossible to entirely prevent hardware problems. However, the Computer Operations group is investigating the feasibility of installing an uninterruptible power supply (UPS) to remove the need to power down the system, the initial cause of the problem.

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MOVING TERMINALS AND PRINTERS

Before you move any terminals or printers attached to the IBM mainframe, contact Lee Korman, Computer Operations (local 8351). Since the port to which your device is attached may be "tailored" to that device, you may encounter problems when attaching it elsewhere. Also, if a terminal goes to another department you may still be charged for its use (or charged incorrectly if you switch devices with another department).

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Computer Resources Usage Reports

Cost Distribution reports covering the usage of the IBM 3083 are now being sent to budget unit managers on a monthly basis. Detailed reports are produced for the following systems:

VM/CMS

VSE: Administrative Production System
Administrative Test System
Academic System

CICS: Administrative System (ISIS, GLOBAL, CHRIS)
Administrative Test System
(ISIS, GLOBAL, CHRIS, DOBIS)
Academic System

These reports are intended as a tool to monitor and assess computer usage. Please note that these reports are not in their final state and no actual cross-charging is taking place. Suggestions for improvement or questions on interpreting the reports should be directed to Rita Richardson (local 8456).

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Computers For Lunch

Let's talk about computers over lunch -- on the third Wednesday of every month. The idea is to get together, share ideas, and talk about what's going on in computing. Bring your lunch, disks, solutions and problems. We'll share ideas, exchange know-how and find out who is doing what.

To start it off, the User Help Centre has planned the following sessions in Room 2N324 from 1200-1300.

* Questions & Answers 85:09:18
on micros (DOS, software, equipment, networks) and mainframes (IBM, HP3000) With a panel of experts

* Office Automation 85:10:16
electronic mail, schedules & spread sheets

* DOBIS 85:11:20
electronic library

* Surprise 85:12:18

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User Help Centre Courses

As a result of a number of requests for courses on different aspects of computing, the User Help Centre (UHC) is offering the following courses. For more information on the UHC, itself, see the article on page 8.

Course	Date	Time
Advanced PROFS (nicknames, distribution lists, managing notes)	85:09:10	(0900-1200)
CMS For Beginners (log on, keyboard, creating & changing a document, filing)	85:09:17	(0900-1200)
SCRIPT/DCF For Beginners (commands & text processing)	85:09:19	(0900-1200)
MICROS For Beginners (keyboard & basic DOS commands)	85:09:24	(0900-1200)

Course	Date	Time
TABLETALK (creating simple ISIS reports)	85:09:25	(0900-1200)
SPSS For Beginners (questionnaires and course evaluation	85:10:02	(0900-1200)
Advanced SCRIPT (form letters, merging files, special commands)	85:10:15	(0900-1200)

You can register by calling Carol Tkach at local 8628 or by sending a PROFS note to CTKACH.

If there are other topics you want or if you would like to have a course designed especially for your department or teaching need, contact Janet Robertson (local 8624) in Room 2N201.

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BC PROFS User Group Meetings

Representatives from CP AIR, Pacific Western, BC Hydro, BC Tel, BC Systems Corporation, Ministry of Human Resources, Ministry of Lands, Parks and Housing, Canada Safeway, Kelly Douglas, Expo '86, and the University of Victoria met at BCIT in May to discuss the PROFS system.

All participants were enthusiastic about forming a PROFS User Group to:

* identify common problems for resolution by IBM
* improve IBM support for PROFS through group requests
* communicate its requirements at international conferences (SHARE & GUIDE)
* share documentation, code, performance measures
* give presentations
* solve problems of interest to the group
* discuss ways to improve PROFS

This initial meeting resulted in formally organizing a B.C. PROFS Users Group, representing approximately 2500 users. All members are major corporations and educational institutes who see PROFS as a cornerstone to their strategic direction in office informations systems. The number of PROFS users is expected to grow to 5,000 in the next year.

BC Systems Corporation hosted the second meeting in June in Victoria. Ted Parten, Assistant Manager-Technical Support, BCIT Computer Resources gave a presentation on capacity planning. Janet Robertson and Michele Becket also presented a list of PROFS requirements to be submitted to the SHARE conference in New Orleans in August.

The next meeting will be held at BC Tel on 85:09:27. See Janet Robertson if you are interested in finding out more about PROFUSERS - the official name for the B.C. PROFS USERS GROUP.

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* HARDWARE CHANGES *
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PC Lab Changes

Last June, twelve IBM PC microcomputers were transferred to the Downtown Education Centre from the PC Lab, Room 2N318, and replaced by twelve Zenith Z-150 microcomputers. Some courses held at the Downtown Education Centre specifically required the IBM PC. The advantage for students at the Burnaby campus is that they can now investigate the compatibility between the Zenith Z-150 and the IBM PC. Almost all the software for the IBM PC will run on the Zenith. One exception is BASICA -- you must use the MS-DOS GWBASIC on the Zenith. Essentially, BASICA and GWBASIC are equivalent at the source level; the machine code may be different due to different basic input and output systems (BIOS).

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Installation of Protocol Converter

This month, an IBM 7171 protocol converter will be installed to allow the connection of more ASCII terminals to the IBM 3083 system. The IBM 7171 protocol converter enables ASCII terminals, such as the Wyse and the Televideo 950, to appear like IBM 3270-type terminals to

the IBM host computer. A wide variety of ASCII terminals can be attached to the IBM 7171 with a maximum of 64 directly-attached terminals. If a terminal port is attached to the DATASWITCH, more than one terminal can access the system through that one port with one terminal active at any moment. The terminal contention can be handled by the DATASWITCH.

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IBM 3083 Memory Expansion

The main memory of the IBM 3083 computer will be increased by eight megabyte (8 MB) to 24 MB this month. With this memory increase, the system performance should be improved over last spring.

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* SOFTWARE CHANGES *
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New Release of VSE

To improve the computing environment, Computer Resources had planned to install VSE Release 2.1 for the academic VSE batch system. However, delivery of the software was delayed, forcing a postponement of installation to 86:01.

As an introduction to VSE 2.1, four features are described later in this Newsletter.

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Reminder: SPSS To Go

Just as a reminder, all SPSS Version 9 production programs should be converted to SPSSx (SPSS Version 10). All new SPSS programs should be written in SPSSx. SPSS Version 9 will be discontinued in 86:05. For details on using SPSSx, refer to the BCIT SPSSX User's Guide (85:05:29) available from the Computer Resources Receptionist in Room 2N214.

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VM/SP Upgrade

In August, software updates to the VM/SP operating system were installed. The "fixes" should be transparent to any user. However, if you problems, please contact an Academic Systems Analyst.

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* CMS VERSION OF NEWSLETTER *
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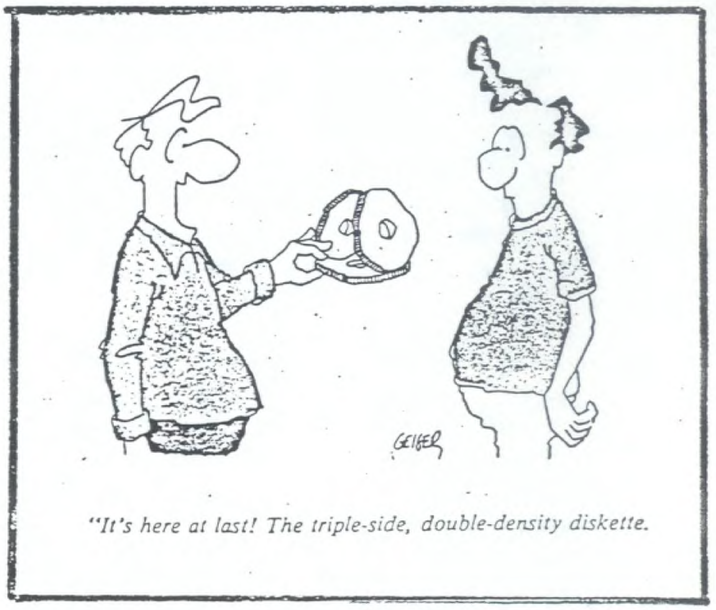
If you have a faculty or staff CMS ID, you can access a copy of the Newsletter via an IBM terminal. This file is updated with each issue of the Newsletter.

The procedure is as follows:

1. Logon to CMS.
2. Type 'NEWS' and the current version will be displayed at your terminal.
3. Use XEDIT commands to scroll through the Newsletter.
4. Type 'QUIT' when you have finished. <>



"It's here at last! The triple-side, double-density diskette.

****
* FEATURES *
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The "New" Secretary (of Computer Resources)

Over the past few years, the activities of the secretarial staff of Computer Resources, Debbie Stamnes and Jean Macdonald, have undergone significant changes as a result of computer technology. No longer do they slave over typewriters typing and retyping edited reports, run around the office distributing telephone messages or scribble messages on notepads that never get picked up!

The secretarial staff of Computer Resources have been the "guinea pigs" for the introduction of office automation technologies into BCIT. As the software tools are proven to be successful within Computer Resources, they are introduced to other areas of BCIT by the User Help Centre.

The first step, taken a few years ago, was the use of XEDIT and SCRIPT to prepare documents subject to extensive revision and those that are reused with minor changes. The report generator ADRS (A Departmental Reporting System) was also used to some extent.

More recently, the implementation of the IBM Professional Office System (PROFS) has greatly altered some traditional routines. Scheduling meetings for the Director with other members of BCIT is done easily through PROFS without repetitious telephoning. The Director's schedule of meetings is maintained by his secretary on the PROFS system and is available for viewing by management personnel and their secretaries who have access to the PROFS system. Notes between the Director and his secretary (and between the Director and other managers) are transmitted via PROFS and can be saved for later reference without loss of confidentiality.

The secretary and receptionist now take telephone messages and enter them on PROFS for delivery to the recipient for viewing at his convenience. No longer are telephone messages lost or overlooked as a result of being recorded on pieces of paper. They can also find where everyone is by looking at their schedules (on PROFS).

The Computer Resources' secretarial staff perform more than the traditional secretarial functions. The entering of weekly project time data into the Computer Resources Project Management System (PMS) has been a task for the secretarial staff since the creation of the PMS. This system is essential for controlling the multitude of projects undertaken by Computer Resources.

A secretary can also be expected to use the power of the microcomputer. For example, our secretary assisted the Director in entering data for a SYMPHONY spreadsheet on one of his projects.

The use of computers by the secretarial staff has greatly increased the variety of their tasks and has removed some of the tedium of the more repetitive chores. For example, SCRIPT/GML makes document preparation easier, faster and virtually error-free with the spelling checker. Within a very short time, the secretarial staff has become familiar with the IBM mainframe computer CMS system as well as the IBM PC microcomputer.

While office automation has altered the nature of some tasks, opened up new areas for development and has enabled productivity gains in others, some tasks remain unchanged. These tasks that cannot be automated are generally dealing with people -- routing requests and queries.

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Something New in Computer Resources

A new group, the User Help Centre (UHC), has been formed in Computer Resources as part of the Systems Development Group to help administrative and academic users find computing solutions for their day-to-day operational problems.

The UHC's major objective is to make you competent and self-sufficient on business automation systems and selected microcomputer software packages.

The UHC is located in the 2N201 and is staffed by:

Carol Tkach	Educational Coordinator	8628
Michele Becket	Analyst	8561
Janet Robertson	Manager	8624

The UHC is a "Walk-In Computer Advice Centre" much like a store front, where people can come browsing to satisfy their information needs. For example, there are self-teaching training diskettes on using a personal computer, understanding basic personal computer concepts, and how to type. The UHC is slowly collecting software packages such as LOTUS, FRAMEWORK, 20/20,

Display Write, and Symphony which are available for short-term loan upon request.

The UHC offered a series of courses in May and June to faculty on how to use personal computers. The course focused on keyboard, basic DOS commands, and MultiMate (a word processing package). They have also trained the senior management's support staff on mainframe text processing (SCRIPT), CMS and XEDIT. The demand for more service is increasing especially in the area of equipment selection and system integration.

Over the next year, the UHC plans on expanding its collection of software packages, increasing the number of course offerings and personalizing computer applications so individual needs are met.

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PROFS To Expand

The highly successful PRofessional Office System (PROFS), run in pilot form over the last half year, is to be expanded to cover the entire campus in the next year. PROFS is an IBM product that is widely used in North America.

PROFS allows you to:

* maintain a personal calendar of activities, appointments, and "things to do"
* schedule large meetings autmatically, finding the most convenient times for all involved
* set automatic reminders
* write, edit and send letters, memos, notes and other formal documents electronically (i.e. electronic mail) to other PROFS users
* find and correct spelling errors, awkward phrases, or select synonyms for overused words

After getting approval from your manager, you can receive a computer ID giving you access to the IBM mainframe. You will also receive an intensive training program provided by the User Help Centre. For example, you will "walk through" all the PROFS functions and exercise the PROFS system in the company of experts.

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What is SIDEKICK?

SIDEKICK is a software package for the IBM PC and compatibles which functions as a word processor, a calculator or an appointment book. The unusual feature of SIDEKICK is that it can reside in memory while another package is running. Boot up your PC, load SIDEKICK, load your application program (word processor, spreadsheet, etc.) and go to work. If you are interrupted by a telephone call, or you need to enter a note, or you need a calculator, call SIDEKICK. A special keystroke (<Ctrl> and <Alt> pressed simultaneously) is all you need to use your system to enter a telephone message onto a diskette file, do a quick calculation or check your appointment schedule.

Another powerful feature of SIDEKICK is the "import" command which can capture an area of your text screen (part of a spreadsheet, for example, but not graphics!) and write it to a PC-DOS text file.

SIDEKICK costs about $110 Canadian. A cheaper version which is copy-protected sells for $70 but will not run on a PCjr. The requirement that this protected disk be present in the "A" drive in order to load SIDEKICK offsets the $40 saving. Note that both versions are copyrighted. Protection or no protection, it is illegal to distribute copies.

In spite of the limitations -- it cannot handle graphics screens and does not work with an "Irma"-type connection (the keystrokes to activate SIDEKICK are disallowed by the "Irma" software) -- SIDEKICK is a bargain for serious microcomputer users.

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ThinkTank -- An Idea Processor

ThinkTank is a software package for the IBM PC and compatibles. It is similar to a word processor, with some important differences. When you are asked to put all your ideas on a subject into a coherent document (course outline, curriculum or executive summary) in an hour or two, ThinkTank may be the best way to get the quality of result you need. Or if you find you are spending a lot of word processor time moving paragraphs and sentences around to achieve a better flow of ideas, ThinkTank may be for you. It works with an "outline" which is a hierarchy of "headings" and "paragraphs". Within a paragraph, ThinkTank is just another (unexciting) word processor. But a few keystrokes can move

sections of your outline into a different order or "collapse" (hide) subordinate details which would clutter the screen and obscure the broader picture. By collapsing all except the part you are working on at the moment, you can keep enough headings on the screen to keep the flow of ideas clear in your mind.

Once satisfied with your outline, you can "port" it to your printer or to a PC-DOS text file which could later be transferred to a host computer. The hierarchical organization makes it easy to choose different levels of detail to be printed. For example, suppose you were using ThinkTank to plan a course. Printing the outline to a depth of 1 would print the course title only. Selecting a depth of 2 or 3 might produce a one-page course outline. Setting the depth to the maximum would print the entire file, which might be the complete course notes. ThinkTank will even generate a table of contents if you want one.

ThinkTank costs about C$130. Release disks are copy-protected and a copy made with PC-DOS will not be executable. ThinkTank has been used at BCIT on the IBM PC and Zenith Z-150. It needs at least 256K; two disk drives are recommended. ThinkTank sometimes hangs and needs to be re-booted. Occasional use of the "backup" command in the paragraph editor is advisable.

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The HP LaserJet Printer

The Hewlett Packard (HP) LaserJet printer (also known as the HP2686A) is, in very simple terms, a photocopying machine driven by a computer. In fact, the printing mechanism of the LaserJet is made for HP by CANON.

The LaserJet prints with a laser beam. The laser beam, turned on and off by the printer's own microprocessor, scans across a light-sensitive drum. The drum picks up toner powder and transfers it to paper. The paper then passes through hot rollers that fuse the toner to the surface of the paper, resulting in a copy of the laser image.

As indicated in the Editorial, the Newsletter is printed on the LaserJet printer. As you can see, the print quality is excellent. By using very densely spaced patterns of dots (up to 90,000 per square inch -- i.e. 300 by 300 dots per inch), the LaserJet produces copy every bit as good as a "daisy-wheel" printer, but silently. And it prints 8 times faster.

Although it was designed for microcomputers, the "wizards" of the Computer Resources Technical Support group have managed to interface the LaserJet to the IBM mainframe. While this interface is functional, some of the flexibility designed into the LaserJet cannot yet be utilized.

The LaserJet is a serial printer using the standard RS-232C interface. A serial printer is one where the digital signal, consisting of eight binary digits (bits) per character, is received one bit at a time from the computer. A parallel printer has eight wires for data transmission between the printer and the computer; the eight bits are received all at once. The serial connection requires only three wires -- one to send data to the printer, one to receive acknowledgement from the printer after it has received a character and a signal ground. RS-232C is a standard for specifying which pins pins are used for which signals and the corresponding voltage levels.

The print rate of the LaserJet is a constant eight pages per minute, regardless of the amount of text on the page. This is generally faster than a dot matrix printer if the page is completely filled with text. The communications data rate between the LaserJet and the driving computer is 9600 BPS (Bits Per Second) which means that text is transmitted quickly from the computer to the printer. (For microcomputer printers, the more common data rates are 600 BPS or 1200 BPS.)

With the LaserJet, you can print sideways on the paper (the so-called "landscape" style) to get more columns on a page. The normal method of printing is called "portrait" style. On the BCIT CMS system, the simplest method of switching from one style to the other is to use the DOC EXEC -- type a 'P' for portrait style in front of the font that you want or type a 'L' for landscape style.

With this printer, office automation at BCIT takes a big step forward.

(N.B. In connecting the LaserJet to an IBM PC, it must be connected to a COMx port rather than a LPTx port. To the PC-DOS operating system, LPTx ports are parallel printers; COMx ports, serial communication ports. Hence, to use the LaserJet with the IBM PC, you require an asynchronous communications adapter board. To set up the COM1 port for printer output, enter the following PC-DOS commands:

```
(1) MODE COM1:9600,,,,P
(2) MODE LPT1:=COM1
```

The first MODE statement tells PC-DOS that the adapter board is used to communicate with a printer at 9600 BPS. The second MODE statement indicates that all line printer output is to be sent to the COM1 port.)

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Challenge 85: Summer Students' Report

This summer, Academic Systems participated in the summer student employment program -- Challenge '85. After canvassing Academic Systems and other groups within Computer Resources, a project list totalling over 3000 hours was drawn up. Since only two students were allowed, the most beneficial projects (to the students as well as BCIT) that would fit into the time frame were selected.

The two students (Steve MacDonald from Computer Systems Technology and Peter Siermacheski from Operations Management) report on their work below. Both were assigned projects covering the typical areas a programmer/analyst would face in a business environment -- documentation, system evaluation, design and development.

Student Documentation
by Steve MacDonald and Peter Siermacheski

The first project was a joint effort concerning student documentation for the HP3000 and the IBM 3083 computers. The objective was to provide students (in technologies other than Computer Systems Technology) with useful information on how to perform various tasks more effectively. Among the topics covered were CMS, XEDIT, SCRIPT, SPSS and Waterloo BASIC on the IBM 3083 and QEDIT, FORTRAN, and HP BASIC on the HP3000.

This project has given us an insight into an important (and sometimes neglected) aspect of computer usage -- user documentation. In writing the documentation, a more complete understanding of the computer facilities at BCIT has been acquired.

Purchase Order Tracking System
by Peter Siermacheski

The Purchase Order Tracking System is a database system designed to maintain purchase orders -- from the creation of the purchase requisition to the receipt of the invoice and receiving report. The primary function of the system is to allow easy retrieval of purchase order information by systems analysts and managers of Computer Resources, thereby minimizing wasted time in searching for information.

Developing a purchase order tracking system has given me better knowledge of computer systems in a business environment as well as the chance to learn the fourth generation language FOCUS.

ISIS Online Parameter Cards
by Peter Siermacheski

Submission of ISIS report requests is very tedious and error-prone. This project eliminates the paper request form by allowing the user to place the request via a computer terminal. There will be less confusion and faster turnaround time between the users and the computer operators. A computerized ISIS report request system fits well with BCIT's direction for office automation. This system is a long way from completion and will not be in production until all aspects are finished. But the system has allowed me to develop a pilot project which improves the efficiency of the Institute.

Test Question DataBase Management System
by Steve MacDonald

The purpose of the Test Question DataBase Management System is to provide the faculty of BCIT with a facility for effective test and marks management. (This pilot project was requested by two Operations Management Technology instructors.) Each individual instructor using the system will be responsible for maintaining and managing his own database of test questions. To enable this, a system was developed with the fourth generation language FOCUS.

There are four main sections to the facility:

1. DataBase Management
2. Reporting
3. Test Creation
4. Marks Management

The main benefits that I have gained from this project are in the areas of project management, database design and management. A good understanding of FOCUS has been acquired.

LANDSAT Image Display Facility
by Steve MacDonald

The LandSat Image Display Facility involves reproducing a digitally-coded image, produced from the LandSat satellite, on a CRT screen. A constraint for the project was that no further hardware or software be acquired but rather make use of the computer resources currently available at BCIT. Therefore the facility uses the IBM Graphical Data Display Manager (GDDM) software package and the IBM 3279 display terminal, available on the IBM mainframe computer, in order to display the LandSat imagery.

The expected benefits of the facility are that the Survey Department (and others) can now include in their curriculum the interpretation of LandSat Thematic Mapper satellite imagery.

A further understanding of the GDDM graphics package, raster mapping on the IBM 3279 graphics terminal, and the LandSat satellite imagery has been acquired from this project. It is expected that Bill Tupper and the Photogrammetry students will be the first to utilize the facility.

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Features of VSE 2.1

The four features described in this article are available in VSE 2.1 which is planned for installation by 86:01.

1. The VSE 2.0 libraries -- the core image, procedure, relocatable, and source statement libraries are combined into ONE library. At BCIT, two VSE 2.1 libraries, BCITLIB and STDLIB, will be available; each consisting of the four component library types.

   You indicate which type of file you want by specifying on the LIBDEF statement the library type; i.e.

   ```
   // LIBDEF <library type>,SEARCH=<libname>
   ```

   where <library type> is:

SOURCE	for source statement files
PHASE	core image files
PROC	procedure files
OBJ	relocatable files

   The libname is either BCITLIB (which will include the BCITCLB, BCITPLB, BCITRLB and BCITSLB) or STDLIB, the student library (i.e. the STDCLB, STDPLB, STDRLB and STDSSL).

2. Catalogued procedures can be nested! A statement within one catalogued procedure can invoke another catalogued procedure. However, a catalogued procedure cannot invoke itself; i.e. recursion is not allowed.

3. Parameters can be passed from one procedure to another by means of "symbolic parameters" (a "symbolic parameter" is a variable name that begins with the "&" sign). This greatly increases the flexibility of a procedure.

   For example, consider the following procedure:

   ```
   * PROCEDURE TESTFILE
   // TLBL  TEST,'&FID',,&SER
   // EXEC  &PGM
   /+
   ```

   When it is called by:

   ```
   // JOB TESTFILE
   // EXEC PROC=TESTFILE,FID=FILE2,SER=0002,PGM=PTAP1
   /&
   ```

   The following JCL is generated.

   ```
   // JOB TESTFILE
   // TLBL TEST,'FILE2',,0002
   // EXEC PTAP1
   /&
   ```

   You can see that "FILE2" is substituted for '&FID' and "0002" for '&SER'

4. The sequence of instructions in a set of job control statements can be altered with ON and IF statements. For example, it is possible to end a job without operator intervention if any step fails.

   Example:

```
// JOB PROG1
ON $ABEND GOTO AB
// EXEC PGM=STEP1
// EXEC PGM=STEP2
IF $RC ^= 0 THEN
// EXEC PGM=ERR2
GOTO $EOJ
/. AB
// EXEC PGM=ERR1
/&
```

   In this JCL sequence, if program STEP1 fails, program ERR1 is executed and the job terminates. If STEP1 is successful but the return code of program STEP2 is non-zero (i.e. an error has occurred), program ERR2 is executed and the job is terminated (the target of $EOJ is the /& statement).

Further details will be described in a revised BCIT VSE USER'S GUIDE planned for 86:01.

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SPSSx vs. Minitab

(Adapted from Beloit College Newsletter, March 1985)

Two different statistical packages are available on BCIT's computers, namely SPSSx on the IBM and MINITAB on the HP3000. There are major differences between the two packages. This article points out some of the strengths and weaknesses of each system.

The main difference is that SPSSx can only be used in batch mode while MINITAB may be used interactively. This means that SPSSx is better suited to large research type problems, while MINITAB is better suited to smaller problems generally found in the classroom setting.

SPSSx can perform a few more complicated functions than MINITAB (such as Canonical correlation and Factor analysis) but most of their functions are similar. SPSSx has the ability to write formatted reports and can analyze multiple responses to the same question on a questionnaire. MINITAB gives you immediate feedback on your analysis. It also has an extensive on-line help facility which SPSSx does not.

In summary, use SPSSx when you:

1. have large amounts of data
2. need some tests that only SPSSx does
3. need extensive labeling and formating of output
4. need to analyze multiple responses

Use MINITAB when you:

1. are in a hurry and have a small amount of data
2. need an interaction with your analysis
3. need to do a simple test on your data
4. are teaching statistical concepts

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* DOCUMENTATION UPDATE *
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New documentation:

Computing Services at BCIT (85:09:01)

The Computing Services at BCIT , previously announced as "Introduction to BCIT Computer Resources" describes the organization and services of Computer Resources. The complete list of user guides available is given below:

User Guide	Revision Date
Computing Services at BCIT	85:09:01
BCIT Computer Resources Software Support Levels	85:05:01
BCIT APL User's Guide	82:12:01
BCIT CMS User's Guide	85:09:04
BCIT CADAM User's Guide (Part I)	83:11:01
BCIT Data Communications User's Guide	84:02:07
BCIT FTC User's Guide	82:12:01

User Guide	Revision Date
BCIT HP 3000 User's Guide	84:09:01
Questionnaires at BCIT	83:06:01
BCIT SCRIPT User's Guide	84:03:01
BCIT SPSSX User's Guide	85:05:29
Using CMS at BCIT	84:09:26
BCIT VAX/VMS User's Guide	84:09:17
BCIT WATBOL User's Guide	83:09:01
BCIT WATFIV User's Guide	83:09:01
BCIT WBASIC User's Guide	84:08:31

The following are available in unedited form.

Waterloo Pascal User's Guide	81:06
QEDIT User's Guide (Robelle)	84:07

One copy of each User Guide may be obtained from the Computer Resources Receptionist in Room 2N214.

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* DUTY ANALYST'S CORNER *
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Some Hints on using SCRIPT

Some simple suggestions in the use of SCRIPT are given below. These points are true for IBM SCRIPT (used by PROFS users) and Waterloo SCRIPT which is available to faculty.

Q: I want to shift a document to the right for printing to allow a margin between the sprocket holes of the paper and the body of the document. Is there an easier way than shifting each line of the file?

A: Yes, there is a much easier method. Use the page margin (.pm) SCRIPT command. For example, if you want to shift the document 10 space to the right, enter .pm 10 as the first line in your SCRIPT file. The shifting of a document can be done in Waterloo SCRIPT with the .adjust command as well; i.e. .ad 10 would do the same thing as .pm 10.

Q: Is there an easier way of creating hanging indents than setting format off and indenting the lines manually in XEDIT?

A: Just as in programming, there are many ways of doing the same thing. Some ways are easier than others. Setting the indentation manually is very laborious. It is easier to use the .OFFSET SCRIPT command. For example, to indent the succeeding lines 3 spaces after the first in the following passage:

1. Hanging indentations are useful in enumerating points. The body of the point could be indented from the number.

use the following SCRIPT commands:

```
.of 3
1. Hanging indentations are useful in enumerat-
ing points. The body of the point could be
indented from the number.
.of 0
```

When the file is "scripted", the line will "wrap-around" and be indented three spaces from the left margin. The drawback is that you can see the result only after you have "scripted" the file. This is one difference between SCRIPT and word processors.

Q: I use the offset command to create hanging indents. Sometimes, when I use it, the remainder of the document is indented when I don't want it to be. What is going on?

A: When you use the offset command, you must remember to reset the offset to zero after the part you want indented. It seems that you have failed to do this after setting your offset. For example, look at the SCRIPT file shown below:

```
.of 3
1. Hanging indentations are useful in enu-
merating points. The body of the point
could be indented from the number.
.sk
2. Don't forget to reset the offset.
```

It results in the following output:

1. Hanging indentations are useful in enumerating points. The body of the point could be indented from the number.

2. Don't forget to reset the offset.

The desired result is:

1. Hanging indentations are useful in enumerating points. The body of the point could be indented from the number.

2. Don't forget to reset the offset.

To get this, there should be an .OF command before the second point; i.e. the ".sk" command line should be ".sk;.of 0".

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* HOURS OF OPERATION *
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I. ACADEMIC SYSTEMS

The normal operating schedule is given in the table below.

On weekends, the HP3000 runs in UNATTENDED mode from 1700-2400 during the school year.

System	Hours	Days
IBM 3083	0800 - 2300	Monday - Friday
	0900 - 1700	Saturday & Sunday
HP 3000	0700 - 2400	Monday - Thursday, Saturday & Sunday
	0700 - 2130	Friday

Computer Operations for:

Thanksgiving Day : 85:10:14 (0900-2300)
Remembrance Day : 85:11:11 (0900-2300)

II. ADMINISTRATIVE SYSTEMS

The following schedule applies to the specified administrative systems.

Start Date

GLOBAL/CHRIS

Mon. - Fri. : 85:07:22 (0800 - 1800)
Weekends : unavailable

DOBIS

Mon. - Thur.: 85:09:03 (0730 - 2230)
Friday : 85:09:06 (0730 - 1900)
Weekends : 85:09:07 (1000 - 1800)

ISIS

Mon. - Thur.: 85:08:19 (0830 - 2030)
Friday : 85:08:23 (0830 - 1630)
Saturdays : 85:08:24 (0830 - 1230)

PROFS

Mon. - Sun. : 85:08:27 (0730 - 1830)

Hours of Operation for all systems (academic and administrative) are noted on the CMS Logon message display. Exceptions to the posted hours will be noted on the CMS Logon message.

The CMS Logon message display is in two parts. The first part will be displayed every time you log on to CMS. Temporary changes to scheduled hours, system downtimes, or new releases of system software packages will be noted on the first part of the CMS logon message.

The second part of the CMS Logon Message will only be displayed when Q LOGMSG is entered. This will display all regular system scheduled hours and any long term information about scheduled holiday hours, system downtimes for maintenance, planned system software/hardware upgrades, etc.

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* LAB BOOKING *
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The IBM terminal labs and the HP terminal lab 2N322 are for scramble use only.

The HP125 CRT terminals in Room 2N325 may be reserved by instructors of courses which use packages requiring the use of the HP125 terminals.

Room 2N325 and the Microcomputer Labs (Rooms 2N318 and 2N321) may be booked through Timetabling (Room 107, Trailer 2V, local 5386). In non-booked times, Room 2N321 is open for scramble use.

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* MAINTENANCE *
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Computer Resources maintains equipment in the table below. In case of problems, call 432-8246 (local 8246).

Micro/Terminal Labs	Locations
APPLE II+	2N321
IBM PC / Zenith	2N318
IBM 3083 system	2N419, 2N420, 2N421 2N329, 2N327, 2N319
HP3000 system	2N322, 2N325

Scheduled Preventive Maintenance (P.M.):

HP3000 System:
85:12:16 -- (0800 - 1400)

3300 01 150041
MR D MOROSO
LIBRARY

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* SUPPLIES *
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Computer Resources stocks supplies for the student labs. Ribbons and paper will be replaced during daily checks. Report supply shortages to Operations staff at 432-8246 (local 8246).

Print Layout Sheets are supplied by Computer Resources and are available in Room 2N327. Coding forms are NOT supplied but may be purchased at the campus TNT (This 'n That) stores.

Central Stores provides:
- 5 1/4 inch diskettes:
  - double-sided, double-density for the IBM PC and compatibles
  - single-sided, double-density for the APPLE II+
- paper and ribbons for microcomputers
- scanner sheets (5-bubble and 10-bubble)

NEWSLETTER SUBSCRIPTIONS

CHECK the subscription change wanted:

___ ADD MY NAME TO YOUR MAILING LIST

___ CHANGE MY NAME/DEPARTMENT
(Please attach current address label)

___ DELETE MY NAME

NAME/TITLE _____
last first

DEPARTMENT/ADDRESS _____

RETURN TO: Editor, Newsletter
BCIT Computer Resource Department
3700 Willingdon Avenue
Burnaby, B.C. Canada V5G 3H2