

↑ THE  
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# TI 99/4A

## USER GROUP



# NEWSLETTER

\$1

APRIL/MAY, 1991

## LISTEN

BY JUSTIN DOWLING

WELCOME TO THE NEW FISCAL YEAR FOR THE BCS: BUDGETS RUN FROM APRIL 1 TO MARCH 31. THROUGH AN ACCIDENT OF PLANNING, OUR USER GROUP HELD THE NORTHEAST COMPUTER FAIR ON APRIL 6TH. WE GOT TO KICK OFF THE NEW YEAR WITH OUR BIG MONEY MAKER. UNFORTUNATELY, THE VIABILITY OF THIS MARKETPLACE IS IN DECLINE; WE DIDN'T MAKE AS MUCH MONEY AS IN PREVIOUS YEARS ALTHOUGH THE LEVEL OF EFFORT WAS AT LEAST AS GREAT OR GREATER; AS HARRY BRASHEAR HAS PUBLICLY OBSERVED, THE TI IS MIDDLE-AGED. IT'S TIME WE LOOKED TO OTHER AREAS FOR MAKING MONEY WITH WHICH TO KEEP HOME COMPUTING ALIVE. THAT LIFELINE IS THE BCS AND TELECOMMUNICATIONS.

IT IS NOT THE TIME TO ABANDON NEWSLETTERS, PUBLIC DOMAIN LIBRARIES, FAIRS, MONTHLY MEETINGS, COMMUNITY EFFORTS. THESE THINGS HELP DEFINE HOME COMPUTING WITH THE TI 99/4A AND GENEVE. BUT TO FUND THESE THINGS, WE MUST DEVELOP NEW SOURCES OF INCOME. YOUR SYSOP TOM WARD AND I HAVE BEEN WORKING WITH THE ONLINE SERVICES COMMITTEE (OLSC) OF THE BCS TO ESTABLISH A BBS THAT WILL CARRY TI ECHOES. WE CAN THEN COMMUNICATE WITH ANY TIER, THEORETICALLY, ANYWHERE.

EVERYONE IS INTO ECONOMIZING IN THESE DAYS OF SCARCITY OF FISCAL RESOURCES. THE BCS IS REORGANIZING ITS UNDERWRITING OF GROUP NEWSLETTERS IN ORDER TO GUARANTEE TO MEMBERS A REGULARLY PUBLISHED GROUP NEWSLETTER. THERE IS A CERTAIN ECONOMY OF SCALE IN SUCH A PROPOSAL. OUR GROUP DOESN'T STRICTLY FIT THIS CRITERION; WE DO INDEED PRODUCE A NEWSLETTER REGULARLY. UNFORTUNATELY, WHILE WE PRODUCE COPY FOR MEMBERS WHO ATTEND MEETINGS, WE CANNOT AFFORD TO MAIL A NEWSLETTER TO AT-LARGE MEMBERS EXCEPT BIMONTHLY. THE BCS WILL TAKE SUCH GROUPS AS OURS AND PUBLISH A REGULAR MONTHLY NEWSLETTER CONTAINING COPY FOR A NUMBER OF USER GROUPS WITHIN THE SAME COVERS. THIS IS SUPPOSED TO HAPPEN FOR US WITH THE JULY NEWSLETTER.

THERE ARE, WITHIN THE BCS, OTHER MARRIAGES BESIDES THE MARRIAGE OF HOME COMPUTER NEWSLETTERS WITHIN GROUPS. AND WITH THESE MARRIAGES THERE ALSO COMES AN ECONOMY OF SCALE. THE MACINTOSH AND IBM BBS' WILL, IF THEY HAVEN'T ALREADY, MARRY. SOME REFER TO SUCH A BBS AS A MEGA-BBS. (INDEED, THE IBM BOARD ALREADY HAS GIGABYTES OF ONLINE STORAGE.)

(GOTO LASTPAGE)

# THE NATIONAL "TI-ECHO"

FOR THE TI99/4A & GENEVE 9640 USERS

[THE TOPIC OF THIS ARTICLE IS THE NETWORK AND HOW TO CONNECT WITH IT.]

BY KEVAN J. COLEMAN  
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REPRINTED FROM NOVIA: THE NEWSLETTER OF  
THE NINETY NINERS OF THE VANCOUVER AREA

ARE YOU MISSING OUT? THERE'S A NATIONAL TI CONFERENCE THAT YOU CAN PROBABLY ACCESS LOCALLY, WITHOUT THE MONTHLY FEE FOR COMMERCIAL SERVICES LIKE COMUSERVE, GENIE, OR DELPHI.

THE NETWORK IS CALLED FIDONET AND THE TI-ECHO IS ONE OF MANY CONFERENCES AVAILABLE TO USERS. ACCESS INTO THE NETWORK IS VIA ONE OF THE NEARLY 10,000 LOCAL BBS SYSTEMS IN THE US AND CANADA.

FOR AN ISOLATED TI USER GROUP THE TI-ECHO CAN PROVIDE UP-TO-DATE INFORMATION ON WHAT'S NEW, LIKE THE "DEZIPPER" PROGRAM BY BEN YATES OR GARY BONSER'S "ZMODEM" FOR THE TI!

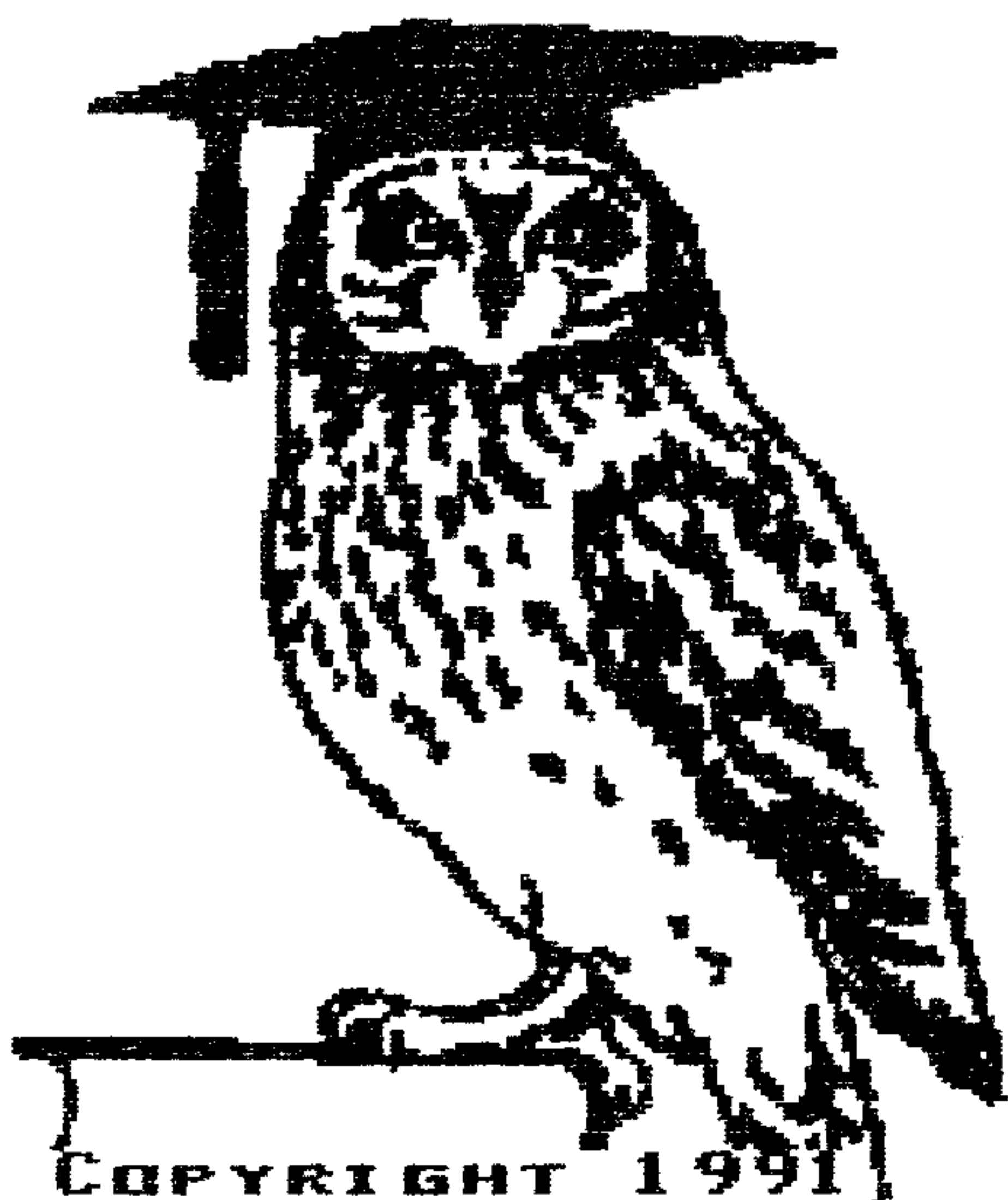
IF YOU HAVE QUESTIONS ABOUT HARDWARE, SOFTWARE OR SYSTEM BUGS, SOMEONE ON THE NETWORK CAN AND WILL ANSWER YOUR QUESTIONS. YOU MIGHT EVEN HEAR DIRECTLY FROM THE SOFTWARE AUTHORS SUCH AS TI-ECHO PARTICIPANT BEERY MILLER.

## HOW TO OBTAIN ACCESS.

CHECK OUT THE BBS SYSTEMS IN YOUR LOCAL AREA. IF ONE OF THE SYSTEMS IS IDENTIFIED AS A FIDO NODE, ASK THE SYSOP TO PLEASE CARRY THE TI-ECHO. IT IS IMPORTANT THAT YOU INFORM THE SYSOP THAT THE TI-ECHO IS ON THE "BACKBONE" AND THAT THE TRAFFIC AVERAGES BETWEEN 7 - 15 MESSAGES DAILY. THE TERM "BACKBONE" IS IMPORTANT TO SYSOPS AS IT TELLS THEM THEY WILL NOT HAVE TO MAKE ANY ADDITIONAL CALLS AND IT WILL COME VIA THE NORMAL FEED. INFORMING THEM OF THE TRAFFIC SIZE IS A COURTESY AND IT WILL INSURE THAT YOU WILL PROBABLY GET THE ECHO. SOME SYSOPS DO NOT LIKE TO CARRY NUMEROUS ECHOS THAT HAVE 100-200 MESSAGES A DAY (I.E., STAR TREK: THE NEXT GENERATION; GENEALOGY).

THE FOLLOWING ARE NUMBERS OF FIDO SYSTEMS THAT SUPPORT THE TI AND CARRY THE TI-ECHO. SPECIAL THANKS GOES TO WALTER TIETJEN FOR NETMAILING THE NUMBERS.

STAR ONE 9600 HST	TULSA, OK (918) 835 8933
TI-RALEIGH 1200	RALEIGH, NC (919) 833 3412
RADIO FREE 9600 HST	MILWAUKEE, WI (414) 352 6176
FULL MOON 9600 HST	MEMPHIS, TN (901) 386 1750
BOB'S PLACE 9600 HST 2400	PITTSBURGH, PA (412) 344 8504 (412) 341 5313



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KEVAN J. COLEMAN

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(FROM P2: TI ECHO)

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## LIMA TI MULTI USER GROUP CONFERENCE

FRIDAY MAY 17 4PM THROUGH SATURDAY MAY 18 6PM  
REED HALL, THE OHIO STATE UNIVERSITY LIMA CAMPUS

THIS ALL TI/GENEVE EVENT IS TOTALLY FREE.

IT IS THE LIMA OHIO TI USER GROUP'S GIFT TO THE TI COMMUNITY. THERE IS NO ADMISSION CHARGE AND TABLES IN THE EXHIBIT ROOM CAN BE RESERVED AT NO CHARGE ON A SPACE AVAILABLE BASIS.

### HOW TO GET TO THE O. S. U. LIMA CAMPUS

LIMA IS LOCATED IN NORTHWEST OHIO ALONG INTERSTATE 75 BETWEEN TOLEDO AND DAYTON. THE USUAL WAY TO APPROACH LIMA BY AUTOMOBILE FROM THE NORTH OR SOUTH IS ON I75 AND FROM THE EAST OR WEST ON US30 OR OHIO 309. LIMA IS SERVED BY GREYHOUND BUS FROM SEVERAL DIRECTIONS. THERE IS NO LONGER ANY PASSENGER TRAIN SERVICE. THE NEAREST AIRPORT IS DAYTON OHIO; FROM WHICH IT IS NECESSARY TO RENT A CAR OR TAKE A GREYHOUND BUS. BY ADVANCE REQUEST, THE LIMA OHIO USER GROUP WILL ATTEMPT TO PROVIDE PICKUP AND DELIVERY TO AND FROM THE LIMA BUS STATION.

THE O. S. U. LIMA CAMPUS IS 3 MILES EAST OF THE INTERSECTION OF OHIO 309 AND I75. A NEW AND VERY WELL MARKED CAMPUS ENTRANCE IS NOW LOCATED ON OHIO 309, JUST EAST OF MUMAUGH ROAD. TURN NORTH FROM 309 INTO THE CAMPUS AT THE GREEN HIGHWAY SIGN. THE FIRST TURN TO THE RIGHT (EAST) OFF THIS NEW ENTRANCE ROAD TAKES YOU TO THE REED HALL PARKING LOT.

### MOTEL INFORMATION

THE FOLLOWING MOTELS HAVE QUOTED US ROOM PRICES. THESE PRICES ARE "PLUS TAX", WHICH IS 12%, AND IN MOST CASES REPRESENTS DISCOUNTS OVER THEIR USUAL PRICES. ROOMS ARE AVAILABLE ON A "SPACE AVAILABLE" BASIS. TO OBTAIN RESERVATIONS AT THE PRICES QUOTED HERE, CALL THE DESIRED MOTEL DIRECTLY (DO NOT USE A MOTEL CHAIN'S 800 NATIONAL RESERVATION NUMBER); STATE SPECIFICALLY THAT YOU ARE ATTENDING THE TI COMPUTER CONFERENCE AT THE O. S. U. CAMPUS, AND REQUEST THE SPECIAL PRICE. WE HAVE GROUPED THESE MOTELS IN TWO GROUPS; THOSE AT THE MOST CONVENIENT LOCATION (NEAR I75 AND OHIO 309) AND THOSE AT OTHER NEARBY LOCATIONS.

#### MOTELS NEAR INTERSECTION OF I75 AND 309

A VARIETY OF RESTAURANTS AND STORES ARE WITHIN WALKING DISTANCE OF THESE THREE MOTELS.

MOTEL 6 (419) 228 0456. ALL ROOMS HAVE 2 DOUBLE BEDS. REGULAR PRICES ARE SINGLE \$24.95, DOUBLE \$30.95

HOWARD JOHNSON LODGE (419) 227 2221. ONE BED (1-2 PERSONS) \$29. TWO BEDS (2-4 PERSONS) \$31.

HOLIDAY INN (419) 222 0004. HAS "HOLIDOME" INDOOR POOL.

(NEXT PAGE)

(FROM P3: LIMA FAIR)

THE FACILITIES ARE COMPARABLE TO THOSE OF THE HOLIDAY INN USED FOR THE CHICAGO TI FAIRE. FLAT ROOM RATE OF \$68 FOR UP TO 4 PEOPLE. TO GET THIS RATE, RESERVATIONS MUST BE RECEIVED AT LEAST TWO WEEKS IN ADVANCE OF THE MUG CONFERENCE.

#### MOTELS AT OTHER NEARBY LOCATIONS

LIMA DAYS INN (419) 227 6515. 175 AND OHIO ST. ONE PERSON \$26.95.

ECONOLIDGE (419) 228 4251. 175 AND OHIO ST.

RESTAURANT, OUTDOOR POOL, AND EXERCISE ROOM. FLAT RATE OF \$38/ROOM UP TO 4 PERSONS. RESERVATIONS MUST BE RECEIVED AT LEAST TWO WEEKS PRIOR TO THE CONFERENCE TO GET THIS PRICE. QUALITY INN (419) 222 8596. 175 AND OHIO ST.

RESTAURANT, OUTDOOR POOL, AND EXERCISE ROOM. FLAT ROOM RATE OF \$34.50 PER ROOM. BEST WESTERN (419) 221 8114. 175 AND BLUELICK RD. HAS RESTAURANT AND OLYMPIC SIZE INDOOR POOL. REGULAR RATES VARY FROM \$39-\$55 FOR ONE PERSON TO \$48-\$65 FOR 3-4 PERSONS DEPENDING ON ROOM.

#### TOURIST INFORMATION

THE U. S. U. LIMA CAMPUS HAS AN EXTENSIVE WOODED AREA WITH NATURE TRAILS THAT INCLUDE A BEACH-MAPLE CLIMAX FOREST. AS MENTIONED BY HARRY BRAXHEAR IN HIS MICROPENDIUM ARTICLE DESCRIBING THE MAY 1998 LIMA TI MUG CONFERENCE, THE CITY OF LIMA HAS A NUMBER OF INTERESTING EXHIBITS RELATING TO ITS PAST HISTORY AS A RAILROAD CENTER. A FEW MILES SOUTH OF LIMA AT WAPAKONETA IS THE NEIL ARMSTRONG AIR AND SPACE MUSEUM HONORING THE FIRST MAN TO WALK ON THE MOON. WAPAKONETA IS THE ONLY PLACE IN THE UNITED STATES WHERE IT IS STILL POSSIBLE TO MAKE A LOCAL TELEPHONE CALL FROM A PAY PHONE FOR FIVE CENTS!

FOR A COMPLETE PACKAGE OF TOURIST INFORMATION ABOUT LIMA AND THE SURROUNDING AREA SEND A POST CARD TO THE LIMA CONVENTION AND VISITORS BUREAU 147 N. MAIN ST., LIMA OH 45801, OR PHONE THEM DURING BUSINESS HOURS AT (419) 222 6845. SPECIFICALLY STATE THAT YOU ARE ATTENDING THE TI COMPUTER CONFERENCE THE WEEKEND OF MAY 18. THEY WILL PROMPTLY MAIL YOU A WHOLE BUNCH OF STUFF.

#### CONFERENCE FOR MORE INFORMATION ABOUT THE TI MUG

TO RESERVE TABLES, SCHEDULE A FORMAL PRESENTATION, OR FOR FURTHER INFORMATION PHONE DAVE SZIPPL EVENINGS AT (419) 228 7189 OR WRITE THE LIMA OHIO TI USER GROUP AT PO BOX 647 VENEZIA OH 45894.

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# THANK YOU

ON BEHALF OF THE FAIR TABLE COMMITTEE I WOULD LIKE TO THANK THE FOLLOWING VENDORS AND USER GROUPS FOR THEIR PARTICIPATION IN THE NORTHEAST TI FAIR HELD ON APRIL 6TH.

M. U. N. C. H USER GROUP  
BUD MILLS SERVICES  
CADD ELECTRONICS

(NEXT PAGE)

(FROM P4: THANKYOU)

FRANK BILLARI  
MS EXPRESS SOFTWARE  
NUTMEG NINETY NINERS USER GROUP  
OPA  
PIONEER VALLEY USER GROUP  
RAVE 99  
DOWNEAST 99ERS USER GROUP  
GREATER BROCKTON USER GROUP  
CLUB 99 USER GROUP  
KEN GILCHRIST  
JACK SUGHRUE- FOR COMPRODINE AND ASGARD

I WOULD ALSO LIKE TO THANK THE MANY VOLUNTEERS THE BCS HAD  
EARLY IN THE MORNING TO SET UP THE SHOW. -RON WILLIAMS FAIR  
TABLE COMMITTEE

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## INTRO TO THE UCSD P-SYSTEM

BY RON WILLIAMS

MY LAST ARTICLE I DID A PROGRAM THAT USED BOTH PASCAL  
AND ASSEMBLY CODE TO DO A SIMPLE FETCH FROM MEMORY THE  
NAMES OF THE THREE VOLUMES I HAD AS DISK DRIVES. THIS  
MONTH I AM STILL MIXING ASSEMBLY AND PASCAL CODE BUT I  
THINK THIS IS A MORE USEFUL ROUTINE. I WAS LOOKING THE  
OTHER DAY AT THE COMPILER MANUAL AND NOTICED A SECTION  
STARTING ON PAGE 116 ON TEXAS INSTRUMENTS UNITS WELL THERE  
ARE MANY ROUTINES IN THIS SECTION FOR SPRITES, SOUND,  
SPEECH AND OTHERS IT ALSO INCLUDES A FEW ROUTINES FOR  
ADDITIONAL STRING HANDLING. THIS CODE I HAVE WRITTEN DOES  
JUST THE OPPOSITE THAT THE PROCEDURE UPPER\_CASE DOES, IT  
CONVERTS STRINGS THAT ARE IN UPPER CASE CHARACTERS TO LOWER  
CASE CHARACTERS. THE PASCAL CODE AND ASSEMBLY CODE IS  
BELOW. YOU WILL NOTICE THAT THIS TIME THE ASSEMBLY CODE  
GETS TWO VALUES OFF THE STACK THE TARGET STRING ADDRESS IS  
PASSED TO THE ASSEMBLY PROGRAM AND THE SOURCE STRING  
ADDRESS IS ALSO PASSED ON THE STACK. THE RIGHT MOST  
ARGUMENT IN THE PASSED PROCEDURE ARGUMENTS IS THE ADDRESS  
ON THE TOP OF THE STACK THAT IS THE FIRST ONE YOU CAN GET.  
SO IN THIS CASE IT IS THE TARGET STRING. IF THE ASSEMBLY  
CODE FINDS ONE OF THE CHARACTERS IN THE SOURCE STRING TO BE  
UPPER CASE IT CONVERTS THE CHARACTER TO BE LOWER CASE AND  
THEN PUTS THE CHARACTER IN THE TARGET STRING. THE ASSEMBLY  
CODE WILL DO NOTHING TO CHARACTERS THAT ARE NOT UPPER CASE.  
THE CODE WILL JUST TRANSFER THE CHARACTER TO THE TARGET  
STRING UNCHANGED. BELOW THE ASSEMBLY CODE IS THE PROGRAM  
OUTPUT. YOU SHOULD GET A GOOD IDEA FROM THIS JUST HOW THIS  
CODE WORKS BUT IF YOU REALLY WANT TO SEE IT FOR YOURSELF  
TYPE IN THE PROGRAM AND SEE IF IT WORKS FOR YOU. LAST TIME  
I STATED A FEW METHODS I HAVE BEEN WORKING WITH TO MIX THE  
PROGRAMS SO IF YOU HAVE PROBLEMS AT ENTERING THE CODE LOOK  
AT MY LAST ARTICLE ON JUST HOW TO DO THIS.

```
PROGRAM LOWER;  
VAR  
  INPUTSTR : STRING;  
  OUTSTR   : STRING;
```

```
PROCEDURE LOWERCASE(VAR LINE1 : STRING ; VAR LINE2 : STRING);EXTERNAL;
```

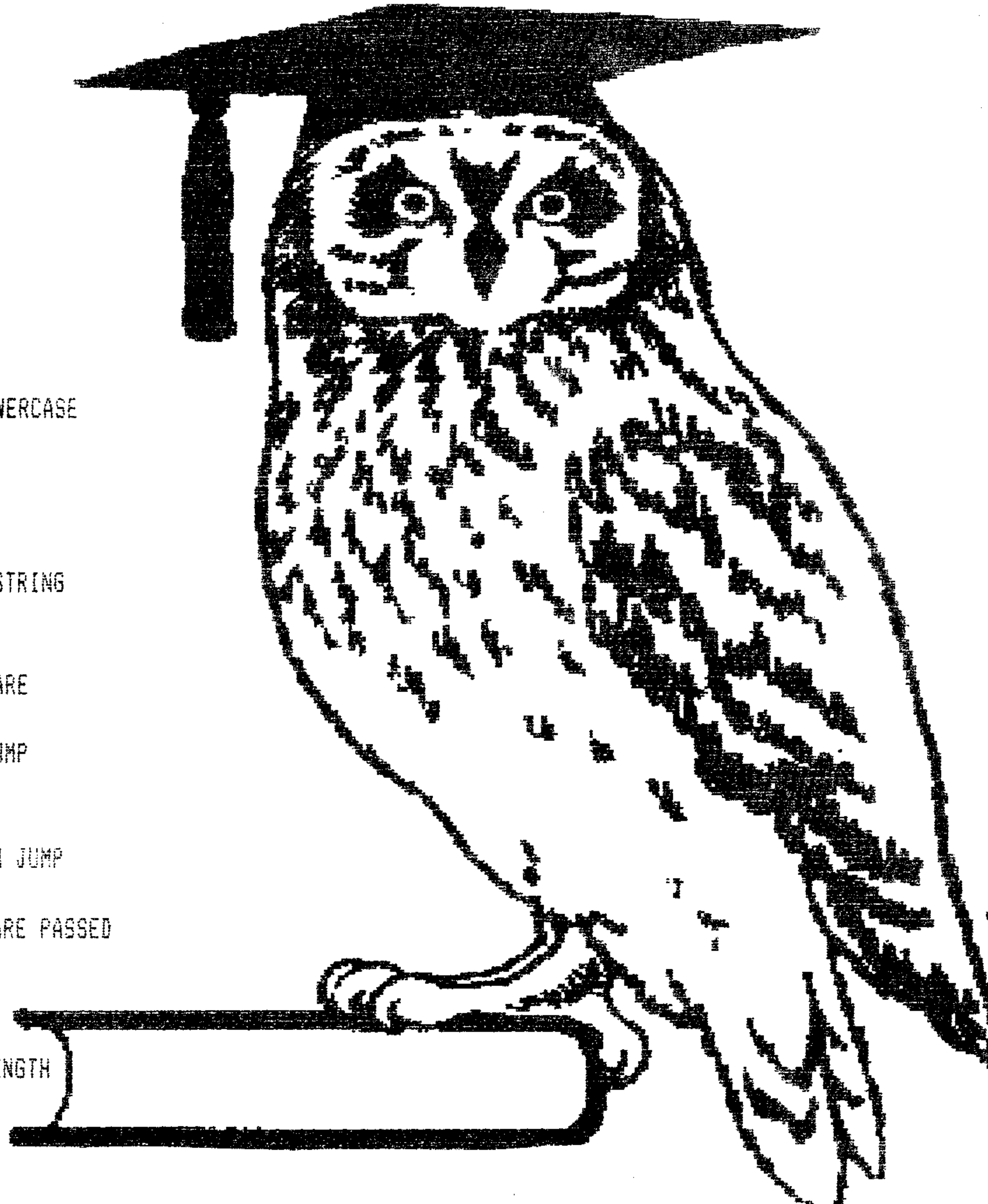
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```

BEGIN
  INPUTSTR:='THIS IS A STRING';
  WRITELN('Input=',INPUTSTR);
  LOWERCASE(INPUTSTR,OUTSTR);
  WRITELN('Input string =',INPUTSTR);
  WRITELN('Output string=',OUTSTR);
END.

      .PROC LOWERCASE,2
      ; CONVERT A STRING FROM UPPERCASE CHARACTERS TO LOWERCASE
LOWER .EQU  2000H
      MOV  *R10+,R6    ;GET TARGET STRING OFF STACK
      MOV  *R10+,R1    ;GET SOURCE STRING OFF STACK
      MOVB *R1+,R2     ;LOAD STRING LENGTH
      MOVB R2,*R6+     ;MOVE STRING LENGTH TO TARGET STRING
      SRL  R2,B        ;SHIFT TO RIGHT BYTE POSITION
      CLR  R5          ;CLEAR REGISTER
$1    MOVB *R1+,R3     ;MOVE BYTE TO REGISTER TO COMPARE
      LI   R4,4100H    ;LOAD REGISTER WITH "A"
      CB   R3,R4       ;COMPARE TO "A" IF LESS THAN JUMP
      JLT  $2          ;JUMP IF LESS THAN
      LI   R4,5A00H    ;LOAD REGISTER WITH "Z"
      CB   R3,R4       ;COMPARE TO "Z" IF GREATER THAN JUMP
      JGT  $2          ;JUMP IF GREATER THEN
      AI   R3,LOWER    ;ADD 32 TO BYTE IF CONDITIONS ARE PASSED
$2    MOVB R3,*R6+     ;MOVE TO ADDRESS IN REGISTER 6
      INC  R5          ;INCREMENT REGISTER
      C    R5,R2       ;COMPARE TO STRING LENGTH
      JNE  $1          ;JUMP IF NOT EQUAL TO STRING LENGTH
      B    *R11        ;RETURN TO PROGRAM
      .END

```



Input=THIS IS A STRING  
 Input string =THIS IS A STRING  
 Output string=this is a string

=====

## WHY SHOULD YOU LEARN TO PROGRAM

BY JIM PETERSON

**WHY SHOULD YOU LEARN TO PROGRAM? TO MAKE MONEY? NO WAY! IF YOU COULD WRITE A PROGRAM TO GUARANTEE WORLD PEACE, ELIMINATE HUNGER AND CURE AIDS, YOU COULDN'T MAKE MONEY SELLING IT TO THE TI WORLD!**

**WHY SHOULD YOU LEARN TO PROGRAM? TO CONTRIBUTE SOMETHING TO THE TI WORLD? OK, BUT DON'T EXPECT ANY THANKS! CONTRIBUTING A PROGRAM TO THE TI PUBLIC DOMAIN IS LIKE DROPPING A PEBBLE INTO A BOTTOMLESS DRY WELL - YOU WILL NEVER HEAR A SPLASH, NOT EVEN A THUD.**

**WHY SHOULD YOU LEARN TO PROGRAM? BECAUSE NO ONE HAS WRITTEN THE PROGRAM YOU NEED? WELL, NOW YOU HAVE A GOOD REASON! SINCE THERE IS NEITHER MONEY NOR RECOGNITION IN PROGRAMMING, THE PROGRAMMERS TEND TO WRITE WHAT THEY FEEL LIKE WRITING, NOT WHAT YOU WANT THEM TO WRITE.**

**WHY SHOULD YOU LEARN TO PROGRAM? FOR ONE REASON, BECAUSE I KNOW THAT YOU WOULD LIKE TO MAKE SOME CHANGES IN THE PROGRAMS THAT YOU USE FREQUENTLY. I KNOW THAT, BECAUSE THE ONLY FEEDBACK I EVER GET IS FROM PEOPLE WHO WISH THAT I**

(FROM P6: LEARN TO PROGRAM)

WOULD CHANGE THIS OR THAT! YOU REALLY WOULDN'T HAVE TO LEARN VERY MUCH TO CHANGE COLORS, ADD OR SILENCE A BEEP OR A BURP, OUTPUT TO DISK INSTEAD OF PRINTER, ETC., ETC. BEYOND THAT, UNRAVELING SOMEONE ELSE'S CODE CAN BE TRICKY AND FRUSTRATING (AND I PITY ANYONE WHO TRIES TO UNRAVEL MY CODE!) OFTEN I FIND IT EASIER TO JUST REWRITE THE BASIC IDEA IN MY OWN WAY.

IF YOU DO MODIFY SOMEONE'S PROGRAM, PLEASE PUT A NOTE ON THE TITLE SCREEN, OR AT LEAST IN A REM, THAT YOU DID SO - AND UNLESS YOU ARE VERY SURE THAT YOU HAVE NOT INTRODUCED A BUG, DON'T DISTRIBUTE YOUR VERSION! PROGRAMMERS DO NOT LIKE TO BE BLAMED FOR OTHER PEOPLE'S MISTAKES, AND THE SALES OF GOOD PROGRAMS HAVE BEEN RUINED BY THE BAD REPUTATION RESULTING FROM PIRATED, MODIFIED AND BUGGED COPIES.

BUT, THE REAL REASON FOR LEARNING TO PROGRAM - IT'S FUN, IT'S CHALLENGING, IT'S CREATIVE! THERE IS SOMETHING VERY SATISFYING ABOUT GETTING AN IDEA TO MAKE THE COMPUTER DO SOMETHING IT HAS NEVER DONE (AS FAR AS YOU KNOW!) AND THEN SUCCEEDING IN MAKING IT DO WHAT YOU WANT. THERE IS A THRILL IN PUSHING THE LIMITS OF THAT OBSOLETE TINY TI PER BRAIN JUST A LITTLE BIT FARTHER.

THERE ARE THOSE WHO PREFER TO EXERCISE THEIR CREATIVITY WITH THE SOLDERING IRON, THOSE WHO CAN PLUG IN CHIPS AND SOUP UP A MODEL T COMPUTER TO RUN LIKE A FERRARI. I REGARD THEM WITH AWE AND WONDERMENT, AND I'M GLAD THEY ARE AROUND. WITHOUT THEM, I WOULDN'T HAVE MY RAMDISK, AND MY EQUIPMENT WOULDN'T GET REPAIRED.

PERSONALLY, I AM THE ULTIMATE KLUTZ. IF I APPROACH MY CAR WITH A SCREWDRIVER, ALL FOUR TIRES GO FLAT. MY ONE FEEBLE ATTEMPT TO REPAIR MY P-BOX RESULTED IN FAILURE, EXPENSE AND EMBARRASSMENT. BUT, WITHOUT HAVING MORE THAN A FAINT IDEA WHAT GOES ON BENEATH THAT KEYBOARD, I HAVE LEARNED TO PUNCH THE KEYS (TWO RIGHT FINGERS AND A LEFT THUMB) AND CREATE HUNDREDS OF PROGRAMS AND ROUTINES WHICH HAVE GIVEN ME A GREAT DEAL OF SATISFACTION.

IT'S BEEN FUN! YOU SHOULD TRY IT SOMETIME.

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(FROM FIRST PAGE)

USER GROUPS WHO CANNOT OFFER THEIR MEMBERS THE SERVICES OF A BBS ARE INVITED TO SPEND THEIR BUDGETTED ALLOTMENT ON A VIABLE BBS WHICH WILL GIVE THEM ROOM ON THEIR BOARD. (THE OLSC CHOOSES TO OFFER THEIR MEMBERS CALLUP SPACE ON THE MAC BBS. THEY BUZZ WITH DISCUSSION ALL MONTH. WHEN THEY MEET MONTHLY: THEIR WORK OF ADVISING THE BCS ON TELECOMMUNICATIONS MATTERS IS MOSTLY DONE.) WE HAVE THE TECHNICAL EXPERTISE TO MANAGE SUCH A BBS. BUT FIRST: WE MUST PUT IT IN PLACE. WE ARE FIRST CRAWLING.

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**ARTICLE**

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**LISTEN**

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**TI ECHO**

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**LIMA FAIR**

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**THANK YOU**

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**UCSD PASCAL**

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**WHY YOU SHOULD LEARN TO PROGRAM**

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