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THE UNIX NEWSLETTER

VOLUME 2 NUMBER 6

JULY 1977

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NOTICE

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SOFTWARE DISTRIBUTION

The mailing of the third software distribution has begun. As announced previously, the tapes are being prepared in New York. An order form is enclosed.

This distribution is somewhat larger than a single rk-platter and contains more files than the maximum allowed by either "tp" or "stp". In order to reduce the number of files, we archived all of the files in each directory into a single archive file (a trick we copied from the Berkeley INGRES distribution). This so reduced the number of files that we are able to include on one 2400 foot tape distributions 1, 2, and 3.

The archived form of the distribution is not very conducive to browsing. Accordingly, we have included in this issue a list of all of the files in all three distributions under the directories in which they appear. This listing also appears on the distribution tape, along with several shell files to ease the burden of dearchiving.

While the new format is somewhat more cumbersome to use than the old, we believe it will be usable by both the large installation with lots of disk space as well as the small UNIX or Mini-UNIX installation with but a single RK drive. Your comments and suggestions on this format are solicited.

The third distribution includes a new "stp" from Harvard which uses new Magtape drivers. These new Harvard drivers for both TU10 and TU16 support multi-file tapes. Using this feature the new "stp" operates in cooked mode with considerably less impact upon other users. All distribution tapes are being prepared using this new "stp". The tapes can be read by old "stp" and by "tp". As with the second distribution, the portion of the tape readable by "tp" will, in all cases, include the files needed to install "stp".

NEW HARVARD RELEASE

We have received a new release of the Harvard HRSTS System and we intent to mail it along with the latest release to installations for which we have a license agreement on file. A copy of the license agreement for educational institutions is enclosed. Non-educational installations must contact Lew Law at Harvard for terms and conditions.

MAILING LIST

The mailing list for this issue is reproduced, with telephone numbers, in this issue. It also appears in the file "3/mlist.jul77" on the distribution tape. On the tape it is formatted in the same way as it was in distribution 2. The details are in directory "bklyn" of distribution 2.

;login:

We hope you approve of the new title and format. As you can see CUNY is now heavily into troff, new version. We have recently received from the Naval Postgraduate School their programs for printing on the Versatec. As soon as we gain some experience with them, we will use them for some of the newsletter.

URBANA MEETING REPORT

We have just received the promised minutes of the Urbana meeting from Steve Zucker at Interactive Systems. Since they are 29 pages in length and this issue is already quite thick, we will print them in the August issue.

FUTURE SOFTWARE RELEASES

The latest word, from conversations with Western Electric, is that Mini-UNIX and Typesetter are released, Programmer's Work Bench should be out by September and the best guess is that Version 7 of UNIX will be a Christmas present.

Address editorial material and software submission to
Melvin Ferentz
c/o CUNY/UCC
555 West 57 Street
New York, N.Y. 10019

Subscription requests, payments and address changes should be addressed to
Armand Gazes
Physics Department
Brooklyn College
Brooklyn, N.Y. 11210



COMPUTER CENTER

May 31, 1977

Professor Melvin Ferentz
Physics Department
Brooklyn College
Brooklyn, New York

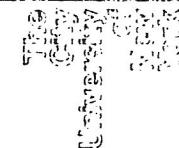
Dear Professor Ferentz:

Some time ago I wrote and asked for information regarding a Unix users' group. We would still like that information. In addition I have several questions regarding the use of Unix in an educational environment. We are considering obtaining Unix partly for the word processing capabilities which seem unique. However, we are interested in the general usefulness for academic time-sharing and the availability of application software. Also how much conversion is necessary for programs currently running on a RSTS operating system. Do you know of anyone using Unix tied into an IBM 370 mainframe. Your help with any or all of these areas would be greatly appreciated. I have tried to telephone you, but I haven't been successful.

Sincerely,

Marian Frobish

Marian Frobish
Director



555 West 57 Street, New York, NY 10019 Telephone 212 677-8000

July 22, 1977

Prof. Melvin Ferentz
University Computer Center
City University of New York
555 West 57 Street
New York, N.Y. 10027

Dear Professor Ferentz:

I recently discovered the following bug in 'CRON': the 'CRON' program uses the 'C' function 'localtime', whose source can be found in '/USR/SOURCE/S4/CTIME.C'. This routine returns a value for the month that is between 0 and 11 (not 1 and 12) and a value for the day of the week that is between 0 and 6 (not 1 and 7). Since the specifications in the documentation probably make more sense than those used in the routine, the following fix is provided to make 'CRON' work as promised in the manual:

```
/= localtime/a loct[4]++;  
if (locr[6] == 0) locr[6] = 7;
```

Apparently, this bug has been noticed in other UNIX installations, but to my knowledge, the correction has never been published.

Sincerely yours,

Steve Eisen

Steve Eisen

SE:eh

Cumulative Distribution Contents Page 1

1/ar1-fort	fx.s	mnmx.s	example2.mx	cudb.f
fc1	.	mod.s	example3.mx	eaddmod.05
fdoc	1/ar1-fort/io	real.s	example4.c	ecardin.00
ilib.a	io1.s	sign.s	example5.c	echeker.01+
ld	io2.s	sin.s	example5.mx	echeker.01-
libf.a	io3.s	sngl.s	example6.c	einit.02
run	io4.s	sqrt.s	example6.mx	estash.f
	io5.s	tanh.f	example7.mx	estash.i
1/ar1-fort/f1	io6.s		explor.a	exlitr8.06
as	io7.s	1/ar1-fort/r12	f2c	f1tmp2
f11.s	ioa	ctime.s	fourz.c	f12c
f12.s	iox.s	getarg.s	func.c	file1
f13.s		nice.s	iabs.c	file2aa
f14.s	1/ar1-fort/r1	openrw.s	ipak.c	file2ab
f15.s	r0.s	plot.s	ipak1.c	file2ac
f16.s	r1.s	rand.s	klear.c	file2ad
f17.s	r2.s	rio.s	ldcmx	file2ae
f1o.a	r3.s	setfil.s	locop.c	file3
	r4.s	ui0.s	makeshow	format.h
1/ar1-fort/f2	r5.s		mbox	read.tape
as	r6.s	1/ar1-fort/s3	minmax.c	test.c
f21.s	r7.s	aint.s	mod.c	test.f
f22.s	r8.s	alog.s	ne.c	1/explor+dl/min1
f23.s	r9.s	atan.s	num.c	bug.mx
f24.s	ra.s	cim	put.c	chanj.f
f2o.a	ras	ecvt.s	rctest	combn.f
	rb.s	exp.s	rctify.c	common.h
1/ar1-fort/f3	rc.s	irri.s	setxl.c	cpres.f
as	rd.s	sin.s	show.c	example1.mx
f31.s	re.s	sqrt.s	splt.c	example2.mx
f32.s	rf.s		splt.c.old	example3.mx
f33.s	rg.s	1/circle	t.c	example4.mx
f34.s	rh.s	ac.c	t0.c	example5.mx
f35.s	rx.s	ac-bug	t1.c	exist1
f36.s		kl.c	test	implicit
f37.s	1/ar1-fort/r11	mc.c	test.c	info
f38.s	abs.s		test1.c	install
19.s	aimag.s	1/explor+dl	xpand.c	ipak.f
.3o.a	aint.s	classprint		kk.mx
1/ar1-fort/f4	alog10.s	dl.c	1/explor+dl/e	klear.f
as	amax0.s	tty0.c	crc.e	10
f41.s	amax1.s	tty1.c	doc	19
f42.s	amin0.s		ec	letter
f43.s	amin1.s	1/explor+dl/befap	ec.c	lk.mx
f44.s	amod.s	a.out	elib	locop.f
f45.s	atan.s	crc.e	exp.s	main.f
f46.s	atst.f	ec	explor	melib
f47.s	cabs.s	ec.c	eximp	mx
f4o.a	ccos.f	elib	life.e	mxend
	cexp.s	erc	lk.mx	mxtest
1/ar1-fort/fx	clog.f	exp.s	mx	ne.f
as	cmplx.s	eximp	p.e	num.f
fhd.s	conig.s	life.e	plad.e	put.f
fx1.s	cos.s	plade	rce	put16.f
fx2.s	csin.f	test.e	spot.e	put4.f
fx3.s	csqrt.f	tk.s	sque	rc
fx4.s	dble.s	tube.e	t.e	rc1
fx5.s	dccos.f	tweed.e	t1.e	rctify.f
fx6.s	dclog.f		t2.mx	run
fx7.s	dcsin.f	1/explor+dl/c	temp	setxl.f
fx8.s	dcsqrt.f	chanj.c	tempx	show.f
fx9.s	dim.s	cmx	test.e	show.f.old
fxa.s	dimag.s	cmx0	tk.s	source2
fxb.s	exp.s	cmxz	tube.e	splt.f
fxc.s	fchg	combn.c	tweed.e	test.mx
fxd.s	float.s	common.h		xpand.f
fxe.s	iabs.s	convert	1/explor+dl/max1	zorch
fxf.s	idim.s	cpres.c	2abj	
fxg.s	idint.s	dazzle.c	2acj	1/london
fxh.s	ierr.s	e5.c	2adj	em.n
.	ifix.s	e6.c	2aej	em1.c
o.a	isign.s	example1.c	common.f	em2.c
		example1.mx	common.h	

emdoc		dsincos.a	xdb.h	run
emhelp		dsqrt.a	xdb1.c	
mas directions		exp.a	xdb2.c	2/london/mas/doc
mas11.c	1/ucsd-fort/io	float.s	xdb3.c	mas.1
mas12.c	io1.as	getarg.s		mas.directions
mas13.c	io2.s	iabs.a		refmanual.n
mas14.c	io3.s	idim.a		
mas15.c	io4.as	idint.a		2/london/odb
mas16.c	io5.s	ierr.s		odb0.c
mas17.c	io6.1.as2	ifux.s		odb1.c
mas1h.c	io6.2.as2	isign.a		odb2.c
mas21.c	io7.s2	mod.a		odb3.c
mas22.c	iox.as2	nice.s		odb4.c
mas23.c		rand.a		odb5.c
mas24.c	1/ucsd-fort/rt	real.a		odb6.c
mas25.c	r1.s	setfil.s		odb7.h
mas26.c	r2.s	sign.a		run
mas27.c	r3.a	sincos.a		
mas2h.c	r4.s	singl.s		2/london/odb/doc
run	r5.1.a	sqrt.a		odb.1
setup.c	r5.2.a	tanh.f		
setup.n	r6.a	uio.s		2/london/pop
spdevices.n	r7.a	underzero.a		dobrk.c
	r8.s			doedit.c
	r9.a			doprnt.s
1/london/doc	ra.a	1/ucsd-fort/s3	main.c	doread.c
mas.1	rb.s	atan.s	proc.h	dowrit.c
refmanual.n	rc.1.a	crypt.s	relsda.2	main.c
tmac.m	rc.2.a	d padd.s	relsda.s	map.c
	rc.3.a	ecvt.s	seg.h	menu.c
1/new-ar	rd.s	exp.s	sig.c	pbord.c
ar	re.a	floor.s	slp.c	pbrk.c
ar.c	ri.a	fmod.s	sys1.c	pline.c
arcv	rg.a	fp.s	sysent.c	pclose.c
arcv.c	rh.a	gamma.s	text.c	pcoord.c
ld	rx.s	get.s	text.h	pecho.c
ld.c		ldiv.s	user.h	pedit.c
mkttemp.c		log.s		pfedit.c
new-ar	abs.a	mesg.s	2/london	pfprt.c
	aimag.a	pow.s	notes	pifput.c
1/rtpip	aint.a	put.s	ye-ed	pifread.c
ac.c	alog.a	rand.s		pifwrit.c
ac-bug	amax0.a	savr5.s	2/london/bin	pgetc.c
mc.c	amax1.a	sin.s	intray	pgetl.c
rtclose.2	amin0.a	sqrt.s	mas	pgmode.c
rtdelete.2	amin1.a	switch.s	odb	pgtabs.c
rtmount.2	amod.a	ttyn.s		phome.c
rtopen.2	atan.a		2/london/intray	phseek.c
rtpip.1	cabs.a		intray.c	pmove.c
rtpip.c	ccos.f	2/bklyn		pnoech.c
rtread.2	cexp.a	READ-ME		pnorm.c
rtumount.2	clog.f	format	2/london/intray/doc	pop.h
rtun.c	cmplx.a	format.c	intray.1	ppage.c
rtwrite.2	conjg.a	format.nrff		pprnt.c
	csin.f	hps.c	2/london/lib	pputc.c
1/ucsd-fort/commands	csqrt.f	mlist.sept76	libw.a	pread.c
convert	ctime.a	stp	mas2	proll.c
create.filb	dabs.a	stp.h		psmode.c
create.liba	datan.a	stp.nrff	2/london/mas	pstabsc
create.libf	datan2.a	stp1.c	mas11.c	pvseek.c
	dble.s	stp2.c	mas12.c	pwwhere.c
1/ucsd-fort/document	dcabs.a	stp3.c	mas13.c	pwrift.c
assemblies	dccos.f	stp4.s	mas14.c	run
commands	dclog.f	tp.h	mas15.c	screen.c
contents	dcsin.f	tp1.c	mas16.c	
convert	dcsqrt.f	tp2.c	mas17.c	2/london/pop/doc
explanations	dexp.a	tp3.c	mas1h.c	popsetup.n
filibheading	dim.a	tp4.s	mas21.c	progmanual.n
instructions	dimag.a		mas22.c	
introduction	dlog.a	2/cac	mas23.c	
libaheading	dlog10.a	readme	mas24.c	
libfheading	dmax1.a	xdb	mas25.c	2/london/usr/lib
mapping	dmin1.a	xdb1	mas26.c	tmac.mm
tapeformat	dmod.a	xdb.d	mas27.c	
		xdb.doc	mas2h.c	

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2/nps	delrem	port	ded1.c
a.dist.note	disable	print	ded2.c
access	empty	put	dump.c
access.1	enable	re.doc	fmcri0.s
access.c	env	right	fsin.s
ddt	envsave	save	inf-at.c
ddt.1	ex	sch+	ye-ed
ddt1.c	fe	sch-	
ddt2.c	filesave	set	2/yale-apl
ddt3.c	l	switch	a0.c
disktest	la	tab	a1.c
disktest.8	la.cmds	tutor	a2.c
disktest.c	load	use	a3.c
ed	lpg.doc	window	a4.c
ed.1	master		a5.c
ed.c	name	2/rand/s1	a6.c
list	opser	archive	a7.c
list.1	opser.help	bk.c	a8.c
list.c	pack	cc.c	a9.c
optab.h	pcat	cl.c	aa.c
pard	proto	code.c	ab.c
pard.1	pushes	compil.c	ac.c
pard.c	rcc	copy.c	ad.c
syscall.h	re.overview	dcheck.c	2/stanford
tapetest	remind	del.c	ae.c
tapetest.c	skill	delrem.c	af.c
tmac.doc	space	df.c	ag.c
zapdisk	ss	di.c	ah.c
zapdisk.c	syms	enable.c	ai.c
	unpack	fe.c	aj.c
2/nps/8080	untab	fs.c	ak.c
8080asm		getty.c	al.c
8080asm.h	2/rand/re	icheck.c	an.c
8080asm.inst	a.out	l.c	ao.c
8080asm1.c	pushes.c	lnum.c	apl.1
8080asm2.c	re.c	login.c	apl.2
8080asm3.c	re.defs	lpg.c	apl.6
8080asm4.c	re.e.c	lpgd.s	apl.h
8080asminit	re.e.o	lre.c	apl.y
	re.m.c	run	aq.c
2/nps/reboot	re.m.o		aw.c
clkoff.s	re.o	2/rand/s2	ax.s
document	re.t.c	master.c	lex.c
m45reboot.s	re.t.o	name.c	na0.c
reboot.c	re.x.c	newgrp.c	na2.c
reboot.s	re.x.o	opser.c	nan.c
stop.c	run	pack.c	nlex.c
stoppr.s		pcat.c	ntab.c
sys4addendum.c	2/rand/re/lre	proto.c	pr
sysext.c	arg	rcc.sav.c	rc
uboot.s	arrow	remind.c	read.me
wrboot.c	backtab	run	run
	bakfiles	space.c	tab.c
2/nps/versatec	chp	ss.c	y.tab.c
c.c	cht	syms.c	ye-ed
ctape.s	close	sysfix.c	
cvers.2	control	tmpread.c	2/ucsd/update
vers.4	error	unpack.c	shfilib
vlp.c	esc	untab.c	shlibf
	exit	who.c	
2/rand	first	write.s	2/ucsd/update/commands
obrien	goto		iand.s
	help	2/rand/s4	ior.s
2/rand/doc	home	ctime.c	r6.a
ar	insert	empty.s	rf.a
archive	key	envsav.s	
bk	left	eofp.s	2/ucsd/update/tapeupdate
bobgunix	line+	gprocs.s	shupdate
cl	line-	pfork.s	2/uicc
code	open	run	at.c
copy	page+	setex.s	cc.c
dc-dn	page-	sfork.s	cc.doc
del	pick	skill.c	ded.h
			ded.nrroff

3/mathcent		3/culc1/fold	3/harv/sys	3/ug
banner.c	3/mathcent/snice	fold.1	3/harv/sys/dmr	nsp
display.1	s5run	fold.c	htnew.c	
display.c	snice.1	fold.note	tc.c	3/ug/basic-plus
dosdisc.1	snice.2	3/culc1/games/eliza	tm.c	NOTE
dosdisk1.c	snice.c	docpgm.lsp	zsema-pv.c	
dosdisk2.s	snice.s	doctor.lsp	3/hjt	3/ug/cc40
dump.8	sys5.c	elistring	dz.4	c0
dump.c	sysent.c	eliza.lsp	dz.c	c0.h
fs.1		eliza.nr	dz.doc	c00.c
fs.c	3/mathcent/stage2	eliza.txt	trunc.1	c01.c
mkdir.s	doc	run	trunc.c	c02.c
m11.6	flags	3/culc1/games/gomoku	zapread.8	c03.c
restor.8	fd1	gom-txt.nr	zapread.c	c04.c
restor.c	fd2	gomoku.c	zapwrite.8	c05.c
run	ft1.fl		zapwrite.c	c1
stat.c	ft2.fl	3/culc1/gt42		c10.c
stty.1	flub.sim	g142.c	3/ken/chess	c11.c
stty.c	flubc	g142l.s	agen.c	c12.c
tm.4	flubrun.c	ida.c	att.s	c13.c
tm.c	flubrun.s	sim.s	bgen.s	c1h.c
tp.1	newfirlun	3/culc1/qsw	bheur.c	c2
tp1.s	outout	qsw.1	bmove.s	c20.c
tp2.s	prflub	qsw.c	book.c	c21.c
tp3.s	prflubmin		bplay.c	c2h.c
tp4.s	run	3/culc1/zeta	ctrl.s	cc.1
tty.c	simcmp	cint	data.c	cc.6
	simcmp.c	c.s	init.c	cvopt
3/mathcent/dam	simt	st1	io.c	cvopt.c
dam1.11	sint	st2	makefile	install
dam1.11.c	st2	st2.6	mater.c	nroff-me
damdefs.h	st2t	st2t	old.h	run
prbord1.11.c	st2tout	st2tout	pio.c	tables
prinfo.c	st2tv	z.f4p	play.c	
prinfo.x	st2tv	zeta.nr	qsort.s	3/ug/cc40/subs
random.c	stg2.fl	zeta.s	savres.c	abs.s
readmove1.11.c		3/case	setup.c	aiof.c
timeac.c		c.c	stat.c	csv.s
ttytyp.c		dr.c	stdin.c	fis.s
3/mathcent/eis	l.s	drive.m11	wgen.s	ftp.s
ash.s	read-this	ex1.c	wheur.c	ito1.s
ashc.s		ex1.f4p	wmove.s	longops.s
div.s		macro.s	wplay.c	lseek.c
eis.s	hp3.s	run	3/ken/chess-book	ltoi.s
mul.s	man.c	s.c	1	printf.s
mul.s		z.f4p	1.5	3/ug/crash
run	3/culc1/banner	zeta.nr	2	compare.
xor.s	5x7.dot	zeta.s	3	crash.c
	79in.c	3/harv/stp	3.5	crashola
	79lst.c	read-me	3.6	dump.doc
3/mathcent/m11	7x9.dot	stp	4	dump.s
m11.bin	banner.c	stp.h	4.5	files
m11-0.s	banner.help	stp.nroff	5.1	getdump.
m11-1.s	dot0	stp1.c	6	xps.c
m11-2.s	dot1	stp2.c	6.5	
m11-3.s	dot2	stp3.c	6.6	3/ug/d3
m11-4.s	dot3	stp4.s	7	MODS-TO-DIR
m11-5.s	dot4	stpnew	9	Notes
m11-6.s	dot5	stpnew.h	9.9	
m11-c	dot6	stpnew.nroff	book	3/ug/d3/afdc
m11-m.c	dot7	stpnew1.c	m0	callingcrd
m11test	dot8	stpnew2.c	m0a	con.1
m11test0	dot9	stpnew3.c	m1	con.c
m11test1	data	stpnew4.s	m2	con.h
m11test2	dotb	tp.h	m3	con.read.me
m11test3	dotc	tp1.c	m4	conb.c
m11test4	dotd	tp2.c	m5	conc.c
m11test5	dote	tp3.c	mac	conf.c
m11test6	dotf	tp4.s		cons.c
m11test7	dotg			find.1
m11test8	doth			
m11test9				
run				

find.c	a3.c	3/ug/judy/dmr	stat.bas	tp2
find doc	a4.c	dj.c	table.bas	tp2.c
ldump README	a5.c	hp.c	tabreg.bas	tp2.man
ldump.sh	a6.c	ht.c	trans.bas	
irestor.sh	a7.c	rt.c	tty.h	3/whaley
mktpe.c	a8.c			concat.c
ncnl.c	a9.c	3/ug/judy/help	3/ug/judy/new/dmr	mkdir
query.l	aa.c	alias	dh.c	recv.e
query.c	ab.c	master	tbldev.c	slvcv.c
query.doc	ac.c	name	tty.c	slvxit.c
ss.l	ad.c	stp	ttyi.c	tty.h
ss.doc	ae.c			xmit.c
ss.sh	af.c	3/ug/judy/monterey	3/ug/judy/s1	ye-ed
table.doc	ag.c	fixr	cc.c	
tmac.tb	ah.c		dcheck.c	
ublock.l	ai.c	3/ug/judy/n1	fed1.s	3/cuny
ublock.c	aj.c	alias.c	fed2.s	dog.1
ublock doc	ak.c	compil.c	fed3.s	dog.c
	al.c	copy.c	form1.s	links.8
3/ug/d3/pd	an.c	delrem.c	history	lsdr
WHO	ao.c	diablo.c	lcheck.c	lsdr.1
make-dirs	apl.h	fill.c	login.c	read-me
read me	aply	fromtty.c	ls.c	tpdir
	aplp.c	help		tpdir.1
3/ug/d3/pd/bin	aq.c	history	3/ug/judy/e2	
apl	ar.c	life.c	history	3/cuny.em
cc	ax.s	logout.c	pr.c	em
document	az.c	melt.c	ps.c	em.n
iban	enter	news.c	sh.c	em1.c
write	lex.c	run	su.c	em2.c
xed	run		tee.c	read-me
	tab.c	3/ug/judy/n2	3/ug/judy/s3	
3/ug/d3/pd/doc	wait0.s	history	history	3/vrlje/pascal
css	wait1.s	proto.c	itoa.s	assnew.c
deass	y.tab.c	remind.c		cstnew.c
document		rpl.c	3/ug/judy/s4	datnew.c
help	3/ug/d3/pd/etc/apl/doc	run	atof.s	extnew.c
mold	MOD-TO-DIR	ss.c	getpw.c	getnew.c
splitf	changes	stp diff.	history	litnew.c
tape	chars	stp h	itoa.s	mainew.c
xed	debug	stp.nroff		plib.o
	descript	stp1.c	3/ug/lcm	pascal.doc
3/ug/d3/pd/src	sys.cmds	stp2.c	a	pc
ass.c		stp3.c		pc.c
cards.c	3/ug/d3/pd/etc/apl/odoc	stp4.s	3/ug/etyle	pc.man
cr.c	PR	syns.c	a4.n	plist
dcheck.c	apl.1		a4.x	pc.list
deass.c	apl.2	3/ug/judy/new	styl4.n	pccompiler.b
document.c	apl.6	amort.bas		pccompiler.i
dump.c	apl.doc	anova.bas	3/ug/ezurke	pccompiler.p
getty.c	rc	arith.bas	dc	pi
help.c	read.me	assoc.bas	ye-ed	pi.man
icheck.c	run	chisquare.bas		plib.o
login.c	ye-ed	convert.bas	3/urbana/indent	pplib.o
man.c		desc.bas	NOTES	ppass1
mold.c	3/ug/d3/utexas	edit.bas	RUN	ppass2
irestor.c	Notes	expend.bas	SUM	ps:ore.o
sendall.c	a.out	extracter.bas	indent	share
splitf.c	ar.mods	filer.bas	indent.c	
tape.c	ar.s	finance.bas	indent.man	
iban.c	ar-orig	fiscal.bas	indent-codes.h	
im.c	ar-orig.s	mulreg1.bas	indent-globs.h	
writes	nc.c	mulreg2.bas	io.c	
xed.c	stp1.c	mulreg3.bas	lexi.c	
	stp2.c	mulreg4.bas	parse.c	
3/ug/d3/pd/etc/apl	stp3.c	mulreg5.bas	pr-comment.c	
CC	stp4.s	mulreg6.bas	3/urbana/tp2	
MODS-TO-DIR	stp5.c	mulreg7.bas	NOTES	
FRAPL		printer.bas	cat.c	
TOC	3/ug/judy	reader.bas	glob.c	
z0.c	new.bugs	revenue.bas	ito24.c	
a1.c		sampler.bas		
a2.c		start.bas		

205 934 3320 Mr. Travis Wood B401, Spain, UAB University Station Birmingham, Alabama 35294	213-825-2971 Prof. Gerald J. Popk 3532 Boelter Hall Computer Science Dept. UCLA Los Angeles CA 90024	714 225-7121 L. H. Brock Naval Personnel R & D Center Code 4304 San Diego, CA 92152	202 697 3577 Major Allan R. Wylie AF DSC SFA Room 1D 144 The Pentagon Washington DC 20330
Bob Marsh Amcomp 686 West Maude Avenue Sunnyvale, Ca. 94086	408 646 2744/2449 Prof. Gerald L. Barksdale, Jr. Code 52BA Computer Science Department Naval Postgraduate School Monterey, California 93940	714 455 1330 Wayne Warren Logicon, Inc. P.O. Box 80158 San Diego, Ca. 92138	301 921 3441 Brian Lucas National Bureau Of Standards Building 225 Room A265 Washington, DC 20234
Dr. Michael Shantz California Inst. of Technology Information Science 286 M0 Pasadena, Ca. 91125	415-326-6200 Joseph L. Ehardt Room K1096 Bldg. 30 Stanford Research Institute Menlo Park, Ca. 94025	805 961-3113 Steve Smith Computer Center University of California Santa Barbara, Ca. 93106	703-437 2320 Charles F. Anderson Defense Comm. Agency Room BE6S5 The Pentagon Washington DC 20301
E. M. Gould Computer Center University of California Berkeley, Ca. 94720	415 326 6200 Mr. John Bass Room J1070 Bldg. 30 Stanford Research Institute Menlo Park, Ca. 94025	Prof. Kenneth Wiberg Chemistry Dept. Yale University 225 Prospect Street New Haven, CT 06520	302 748 2406 Edward Skorkowski Dept. of Electrical Engineering University of Delaware Newark, Del. 19711
Glen M. Brechin NELC Code 5200 271 Catalina Blvd. San Diego, Ca. 92152	415 447-1100 Jeffry Yeh Lawrence Livermore Laboratory Mail Code L 380 P.O. Box 80X Livermore, Ca. 94550	203 432 4080 Greydon C. Freeman Yale University Computer Center 175 Whitney Avenue New Haven, CT 06520	302 738 283 Computer Science Laboratory University Of Delaware Dept. of Stat and Comp. Sci Newark, Delaware 19711
John Cornelius Chem. Dept. Comp. Facility B 014 Univ. Of Calif. At San Diego La Jolla, Cal. 92093	415 497 1703 Jon F. Claerbout Stanford University Dept. of Geophysics School of Earth Science Stanford, Ca. 94305	203 432 4893 Dr. Michael Kubovy Psychology Dept. Yale University Box 11A, Yale Station New Haven, Ct. 06520	404 894 3152 Henry N. Camp School Of Info. And Comp. Sci Georgia Institute Of Technology Atlanta, Ga. 30332
Lawrence McDaniel Dept. of Physics B 019 University of California La Jolla, Ca. 92093	415 497 7228 Prof. C. J. Karzmark Dept. Of Radiology Stanford Univ. School Of Medicine 300 Pasteur Drive Stanford, California 94305	203 436 1387 Roger Deshaies Yale Lung Research Center 105 LCI Yale University New Haven, CT 06520	Alfred Whaley 22 DCL University of Illinois Computer Science Dept Urbana, Ill. 61801
Marc Lewis Computer Center California Polytechnic State U. San Luis Obispo, Ca. 93407	415 642 2714 Prof. R. S. Fabry Computer Science 531 Evans Hall University Of California Berkeley, Cal. 94720	203 436 2182 PDP 11 Computer Room Registrar's Office SSS Hall/ 1604A Yale Station Yale University New Haven, CT. 06520	Dr. A. M. Mark Dept. of Computer Science Southern Illinois Univ. Fisher 2126 Carbondale, IL 62901
213 393 0411x208 Lauren Weinstein The Rand Corporation 1700 Main Street Santa Monica, Calif. 90406	415 666 1208 Vernon Smith Dept. of Radiology Physics Sect. U 368 IQI Univ. of California San Francisco, CA 94143	203 436 8160 Robert W. Tuttle Dept. Of Computer Science Yale Univ. 520 Dunham Lab. 10 Hillhouse Avenue New Haven, Ct. 06520	Mateo M. Perez Research Resources Center Univ. of Illinois Medical Center 1940 West Taylor Street Chicago, Ill. 60612
213 822 1511 University of Southern California Information Sciences Institute 4676 Admiralty Way Marina del Rey, Ca. 90291	415 666 1235 Thomas F. Ferrin School of Pharmacy University of California San Francisco, Ca. 94143	201-767-2197 James Lucas Naval Research Lab. Code 4180 Washington, DC 20375	217-333 5469 Steve Holmgren 210 ACB University Of Illinois Urbana, Illinois 61801

309-343-0112x414
Mr. Wm. C. Ripperger
Computer Center Director
Knox College
Galesburg, Illinois 61401

617-237-2100
Edward J. Gilroy, Jr.
Incoterm Corporation
65 Walnut Street
Wellesley Hills, Mass. 02181

Timothy W. Hoel, Director
Academic Computer Center
St. Olaf College
Northfield, MN 55057

Prof. Emil C. Neu
Dept. of Electrical Engineering
Stevens Institute of Technology
Castle Point Station
Hoboken, N.J. 07030

312-564-2000
Don Hoffman
EMI Medical, Inc.
X-Ray Systems
3605 Woodhead Dr.
Northbrook, Ill. 60062

617-253-7851
Peter Neilson
MIT Lincoln Laboratory
Applied Seismology Group
42 Carleton Street
Cambridge, Mass. 02142

507-645-4431x504
Carl Henry
Computer Center
Carleton College
Northfield, Minn. 55057

201-246-9992
Gary Seubert
New Jersey Bell
18 Paterson Street 8th Floor
Switching Control Center
New Brunswick, N.J. 08901

312-942-5276
Laurens V. Ackerman, M.D.
Department Of Medicine
Rush Medical Center
1753 Congress Parkway
Chicago, Illinois 60612

617-271-2384
Barbara N. Wagner
MITRE Corporation
P.O. Box 208
Mail Stop B295
Bedford, Mass. 01730

612-373-0132
Prof. G. Michael Schneider
University of Minnesota
Dept. of Computer Science
114 Lind Hall
Minneapolis, Minn. 55455

201-257-8300x250
Mr. Seymour Grodstein
East Brunswick High School
Cranbury Road
East Brunswick, N.J. 08816

312-996-8579
Michael O'Brien
Dept. Of Information Engineering
University Of Illinois
P O Box 4348
Chicago, Ill. 60680

617-495-2627
Mr. Lewis A. Law
Director Of Technical Services
Science Center - Harvard Univ.
1 Oxford Street
Cambridge, Mass. 02138

314-454-3364
Kenneth L. Ripley
Biomedical Computer Laboratory
Washington University
700 South Euclid Ave
St. Louis, Missouri 63110

201-582-2394
Mr. Ken Thompson
2C-523
Bell Telephone Labs.
Murray Hill, N.J. 07974

317-493-8826
James J. Besemer
School Of Electrical Engineering
Purdue University
West Lafayette, Ind. 47907

617-522-4800
Mr. Bill Mayhew
The Childrens Museum
The Jamaicaway
Boston, Mass. 02130

919-684-3048
Eric H. Corwin
Computer Science Dept.
Duke University
Durham, N.C. 27706

201-582-3770
Mr. Dennis M. Ritchie
Room 2C514
Bell Telephone Laboratories
Murray Hill, NJ 07974

317-493-9385
David Anderson
Mechanical Engineering Dept.
Purdue University
West Lafayette, Ind. 47907

301-454-5210
Lee Moore
University of Maryland
Lab for Pattern Analysis
Dept. of Computer Science
College Park, Md. 20742

919-697-2861
Richard G. Shahbazian
Patent License Manager
Western Electric
P.O. Box 25000
Greensboro, N.C. 27420

201-582-4373
R.C. Haight
Bell Laboratories
6 Corporate Place PY 1A-105
Piscataway, N.J. 08854

317-749-2971
Stephen J. Mahler
Dept. Of Agricultural Engineering
Purdue University
West Lafayette, Indiana 47907

301-338-7024
Prof. W. H. Huggins
Dept. Of Electrical Engineering
The Johns Hopkins University
Baltimore, Md. 21218

Dr. Gottfried Luderer
Bell Labs 2F-225
600 Mountain Ave.
Murray Hill, N.J. 07974

201-949-3490
Mr. J.J. Molinelli
1E-402A
Bell Telephone Labs
Holmdel, N.J. 07733

H. Bellmar
Minuteman Regional Vocational
High School District
758 Merrett Road
Lexington, Mass. 02173

301-688-6781/7483
Dept. of Defense
9800 Savage Road
Ft. G. G. Meade
Maryland 20755
ATTN: Dennis L. Mumaugh. R253

Irma B. Biren
Bell Laboratories
MH 2F-128
600 Mountain Ave.
Murray Hill, N.J. 07974

201-949-6948
Mr. Clyde P. Imagna
Bell Telephone Laboratories
Crawford Corners Rd.
Holmdel, NJ 07733
Room #1C-406A

HQ ESD/MCIT (Stop 36)
Attention: Capt Paul Karger
L.G. Hanscom AFB, Mass 01731

301-688-8147
J. Gary Donnelly
Department of Defense, R53
9800 Savage Road
Ft. Meade. Md. 20755

John Koch
Physics Dept.
Rutgers University
Busch Campus
New Brunswick, N.J. 08903

201-981-7909
John R. Mashey
Bell Laboratories
6 Corporate Place PY 1B-101
Piscataway, N.J. 08854

Shao-Sun Chien
Harvard School of Public Health
Computing Facility
665 Huntington Ave.
Boston, Mass. 02115

Prof. W.R. Franta
Interactive Computation Lab.
University of Minnesota
143 Space Science Center
Minneapolis, Minn. 55455

Mr. Joseph F. Maranzano
2C118
Bell Telephone Laboratories
Murray Hill, NJ 07974

609-452-4195
Prof Peter Bloomfield
Department Of Statistics
Princeton University
Princeton, NJ 08540

609-452-4640 Prof. Bruce W. Arden Dept. Of Electrical Engineering Princeton University Princeton, NJ 08540	212-780-5569 Prof. Melvin Ferentz Physics Dept. Brooklyn College Of CUNY Brooklyn, New York 11210	216-368-4164 Art Harlan CWRU 9105 Elsmere Drive Parma, Ohio 44130	412-327-3200 John B. Allison American Businessman's Computer P.O. Box D Export, Pa. 15632
Forest Baskett University Of California Los Alamos Scientific Laboratory P.O. Box 1663 Los Alamos, New Mexico 87545	212-790-4263 Dr. Leon Landovitz CUNY Graduate Center Computer Center 33 West 42nd Street New York, N.Y. 10036	216-791-7300x2900 Mr. Gary M. Goins University Hospitals Wearn Research Building CWRU / Biometry Cleveland, Ohio 44106	814-865-9505 Facilities Chairman Computer Science Dept. 303 Whitmore Lab The Pennsylvania State University University Park, Pa. 16802
505-264-3142 C. J. Fisk Div. 2648 Sandia Laboratories Albuquerque, New Mexico 87115	212-794-3000 George M. Besher New York Blood Center 310 East 67th Street New York, N.Y. 10021	419-537-2511 Computer Services The University Of Toledo 2801 W. Bancroft St. Toledo, Ohio 43606	H. K. Eisenstein University Of South Carolina Columbia, S. C. 29208
212-254-6300x238 Robert P. Hopkins Manager Computer Center The Cooper Union Cooper Square New York, N.Y. 10003	212-860-8040,8044 Marc J. Teller New York Medical College Flower & Fifth Ave Hospital 5th Avenue at 106th Street New York, N.Y. 10029	513-745-3407 Prof. Frederick G. Werner Physics Dept. Xavier University Victory Parkway Cincinnati, Ohio 45207	615-974-5067 Prof. Mike Moshell Dept. of Computer Science University of Tennessee Knoxville, Tenn. 37916
212-280-5517 Mr. Reidar Bornholdt Dept. Of Biological Sciences 653 Schermerhorn Hall Columbia University New York, N. Y. 10027	212-977-8008 Mr. Ira Fuchs, Director CUNY University Computing Center 555 West 57th Street New York, N.Y. 10019	405-325-3866 Michael O'Dell University of Oklahoma Info. and Computer Science 601 Elm Ave Rm 921 Norman, Ok. 73069	University of Texas El Paso E. E. Dept. El Paso, Texas 79968 Attn: Glenn Gibson
212-289-5940 Mr. Dustin H. Heuston The Spence School 22 East 91st Street New York, N. Y. 10028	516-686-7715 Edwin Catmull New York Institute Of Technology Computer Graphics Lab P.O. Box 170 Old Westbury, N.Y. 11568	503-248-5923 Oregon Mus. Of Science & Industry Computer Center c/o Mr. Barry Smith 4015 S.W. Canyon Rd. Portland, Ore. 97221	512-471-3242 David M. Phillips Computation Center University of Texas Austin, Texas 78712
212-644-0920 Forrest Howard Commercial Union Leasing 645 Madison Avenue New York, NY 10022	516-694-5500 Harry Linzer Polytechnic Institute Of New York Long Island Center Route 110 Farmingdale, N.Y. 11735	John Lowry Dept. of Computer Science Carnegie-Mellon University Pittsburgh, Pa. 15213	801-531-7711 Walter B. Dilts Berkeley Scientific Laboratories Clinical Laboratory Division 330 West 5th South Salt Lake City, Utah 84101
212-687-0686 James E. Kulp Graphic Management Systems, Inc. 20 East 46th Street New York, N.Y. 10017	516-924-5533 Stuart Kern Physical Review Building 510E Brookhaven National Laboratory Upton, N.Y. 11973	Mr. Scott M. Eleff Univ. Of Penn School Of Medicine Dept. of Bio Phys & Phys Biochem Phila, Pa 19104	801-581-8224 Mr. Martin E. Newell Computer Science Dept. Univ. of Utah Salt Lake City, Utah 84112
212-694-3501 Dr. Lou Katz Columbia University College Of Physicians & Surgeons 630 West 168 Street New York, NY 10032	607-256-4880 David H. Bessel, Manager Program Of Computer Graphics Cornell University 120 Rand Hall Ithaca, N.Y. 14853	215-865-0741x253 Rance De Long Moravian College Colonial Hall Main & Elizabeth Sts. Bethlehem, PA 18018	694-5037 Steve Walker ARPA 1400 Wilson Blvd. Arlington Va.
212-730-2670 P.J. Plauger Yourdon, Inc. 1133 Avenue of The Americas New York, N.Y. 10036	J. Jalbert Computer Center Fellows Hall Denison University Granville, Ohio 43023	215-865-5351x322 Prof. John P. Stoneback Northampton Community College 3835 Green Pond Road Bethlehem, Pa. 18017	703-471-1106 Harold A. Solow RLG Assoc. Inc. Suite 16 11250 Roger Bacon Drive Reston, VA 22090

703-527-7571 Joseph S.D. Yao Science Applications, Inc. 911 North Ft. Meyer Drive Suite 1200 Arlington, Va. 22209	403-432-3971 Prof. T. A. Marsland Dept. Of Computing Science Univ. Of Alberta Edmonton, Alberta Canada T6G 2E1	(049) 68-5305 J.A. Lambert, Director Computing Centre The University Of Newcastle New South Wales, 2308 AUSTRALIA	Dr. Peter Grey Dept. of Computer Science Kings College Old Aberdeen University of Aberdeen SCOTLAND AB9 2UB
703-821-2828 Dr. L.S. Randall Decisions and Designs, Inc. Suite 600 8400 Westpark Drive McLean, Va. 22101	403-452-9990 C. Christie Director of Computer Services Athabasca University 14515-122 Avenue Edmonton, Alberta CANADA T5L 2W4	Ian Johnstone Graduate School of Management Univ. of New South Wales Kensington 2033 AUSTRALIA	Technische Universitat Berlin Ernst Reuter Platz 7 1 Berlin 10 GERMANY
802-864-6559 Mr. Richard Becker Vermont Lung Center Univ. of Vermont Burlington, VT 05401	416-928-4800 Mr. K. C. Patnaik Univ. of Toronto Computer Research Facility 10 King's College Road. SF214 Toronto, Canada M5S 1A1	02236-7485 Jim Curry Computing Services Int. Inst. Of App. Systems Anal. 2361 Laxenburg, AUSTRIA	University Of Newcastle Upon Tyne 6 Kensington Terrace Newcastle Upon Tyne NE1 7RU, ENGLAND
608-262-1204 Prof. E. J. Desautels Computer Science Dept. University Of Wisconsin 1210 W Dayton St Madison, Wis. 53706	416-967-4570 Mr. Rick Macfarlane Floor 32 2 Bloor Street West Toronto, Ontario Canada M4W 3E2	662-3239 The Manager Computing Services Unit University of New South Wales P.O. Box 1 Kensington. 2033. AUSTRALIA	01-435-7141 ext 481 Howard Thomson Dept. of Computer Science Westfield College (London Univ.) 312 Finchley Road London NW3 7ST ENGLAND
Dr. J.M. Wells Computer Science Dept. University of Manitoba Winnipeg, Manitoba CANADA R3T 2N2	519-885-1211x2810 Prof. R. W. Peebles Dept. Of Computer Science University Of Waterloo Waterloo, Ontario, Canada N2L 3G1	663-0351 John Lions Dept. Of Computer Science University Of New South Wales Kensington 2033 AUSTRALIA	01-980-4811 Jon Rowson Queen Mary College Dept. Of Computer Science Mile End Road LONDON E1 4NS
of. R. Brien Maguire Dept. of Computer Science University of Regina Regina, CANADA S4S 0A2	519-885-1211x3400!x3293 Dr. Ernest Chang Computer Science Dept. University Of Waterloo Waterloo, Ontario Canada N2L 3G1	692-1122 Ian Jackson Dept. of Computer Science School of Physics (BLDG A28) University of Sydney, N.S.W. 2006 AUSTRALIA	0206-44144x2189 Brian O'Mahoney Computer Science Dept. University of Essex Wivenhoe Park Colchester CO4 3SQ ENGLAND
204-474-8165 Dr. R. Collens Computer Science Dept. University Of Manitoba Winnipeg, Manitoba Canada R3T 2N2	604-228-2731 Stephen W. Borden Inst. of Animal Resource Ecology University of British Columbia 2075 Westbrook Place Vancouver, B.C., CANADA V6T 1W5	010-417231 Prof. E. Milgrom Unite D'Informatique Universite Catholique De Louvain Chemin Du Cyclotron 2 1348 Louvain-La Neuve, BELGIUM	031-225-8432x102 Prof. F. G. Heath Dept. Of Electrical Engineering Heriot-Watt University 31/35 Grassmarket Edinburgh EH1 2HT SCOTLAND
306-244-3606 G.J. Skulmoski Analytics 852 Saskatchewan Crescent East Saskatoon, Saskatchewan CANADA S7N 0L4	613-547-2844 Prof. D. A. Jardine Dept. Of Comp. And Info. Sci. Queen's University Kingston, Ontario CANADA K7L 3N6	63171 x 456 D.W. Taylor Dept. Of Computer Studies University Of Technology Loughborough LE11 3TU Leicestershire GREAT BRITAIN	031-667-1081x2778 Mr. Jeffrey Tansley Dept. Of Computer Science Univ. Of Edinburgh King's Buildings, Mayfield Road Edinburgh EH9 3JZ, SCOTLAND
306-343-5801 Peter Hardie Dept. Of Computational Science University Of Saskatchewan Saskatoon, Saskatchewan Canada S7N 0W0	613-547-6148/2711 Prof. Jeffrey Kulick Dept. Of Comp. And Info. Sci. Queen's University Kingston, CANADA K7L 3N6	707-23-79 Thomas V. Willoughby L.E.R.S. 58 rue de la Glaciere 75013 Paris FRANCE	339-8855x7391 William Findlay Computing Science Dept. Univ. of Glasgow Glasgow G12 8QQ SCOTLAND
403-284-6601 Prof. Lawrence O. Sinkey The University of Calgary Faculty of Environmental Design 2920 24 Ave. N.W. Calgary, CANADA T2N 1N4	613 596-3081 W. D. Richardson Computing Devices Company P.O. Box 8508 Ottawa, Ontario, Canada K1G 3M9	D.B. Anderson Electrical Engineering Dept. University of Essex Wivenhoe Park Colchester CO4 3SQ ENGLAND	66822 Dr. R.P.A. Collinson Computing Laboratory University Of Kent Canterbury CT2 7NF Kent ENGLAND

Brighton-66755
Dr Steven Hardy
Cognitive Studies Programme
School of Social Sciences
University of Sussex
Brighton BN1 9QN ENGLAND

Ralph Pesso
Digital Laboratory
PO Box 653
Beer-Sheva 84 120, ISRAEL

Technion
Israel Inst. Of Technology
12. Haaliy Street
Bat-Galim P.O. Box 9649
Haifa, ISRAEL

02-30211x605
Amnon Barak
Computer Science Department
Hebrew University Of Jerusalem
Jerusalem, ISRAEL

(020) 548-2410
Dr. Andrew Tanenbaum
Mathematics Dept.
Vrije Universiteit
Box 7161
Amsterdam, THE NETHERLANDS

D. W. De Bakker
Dept. Of Computer Science
Foundation Mathematisch Centrum
2E Boerhaavestraat 49
Amsterdam 1005, THE NETHERLANDS

080-558833 Ext 2224
Hendrik-Jan Thomassen
Faculty Of Science
Toernooiveld
Nijmegen
THE NETHERLANDS

962.11.19
Hernan Suarez-Flamerich
Cen. De Informacion Y Computacion
Universidad Simon Bolivar
Apartado Postal No. 80659
Caracas, VENEZUELA

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