

K9-10.0

## Program Checkout 1 - Format Controlled Decimal

## PROGRAM CHECKOUT NO. 1 LGP-21

0000	b0048'	3 at 5
0001	80xi0200'	Prime read
0002	h0152'	BCD
0003	t0534'	error
0004	r0261'	Binarize address
0005	u0229'	
0006	h0056'	address
0007	y0022'	
0008	y0223'	
0009	b0152'	BCD
0010	s0153'	1 at 11
0011	t0154'	1 char. or less
0012	s0141'	2w,0000 X or R or S
0013	t0534'	error
0014	s0150'	1 at 11
0015	t0720'	-ve RS
0016	s0538'	11 at 11
0017	t0534'	error
0018	u0324'	SS
	,0000002'	
0019	40000000'	1 at 1
0020	00000004'	1 at 29
0021	b0000'	[ ] last + 1 fir P
0022	b0000'	[ ] next to print
0023	h0152'	temp.
0024	y0239'	get contents of address
0025	e0111'	7ww0,j002
0026	s0112'	1 at 30
0027	t0102'	print instruction format
0028	u0037'	print hex format
0029	b0022'	P PRINT HERE
0030	u0031'	
0031	r0446'	Print address



0100	y0522'	
0101	u0519'	
0102	b0152'	temp.
0103	r0446'	Print instruction
0104	u0422'	
0105	xz0400'	BRANCH SWITCH 4 ON to skip printing of contents of address
0106	u0243'	skip
0107	u0209'	
0108	a0316'	1 at 15
0109	t0243'	Z skip
0110	u0034'	B print hex
	,0000003'	
0111	7ww0j002'	mask
0112	00000002'	1 at 30
0113	00040000'	4 at 15
0114	a0236'	4 at 15
0115	t0058'	0 or 1 or 2 or R
0116	s0309'	1 at 15
	I or 5 or 6 or 7	
0117	t0119'	I
0118	u0534'	error
0119	b0255'	u0422
0120	u0339'	
0121	xr0000'	3 at 15
0122	xy0000'	2 at 15
0123	a0309'	1 at 15
0124	t0332'	-ve P
0125	xz0001'	1 at 29 and error halt
0126	b0019'	c. r.
0127	xp0200'	
0128	u0248'	delay 5 revolutions
0129	b0000'	last + 1
0130	b0323'	u0342 H HERE
0131	u0339'	

	,0000002'	
0132	000w3wwj'	mask
0133	00040000'	4 at 15
0134	a0113'	4 at 15
0135	t0114'	0 or 1 or 2 or R or 4 or 5 or 6 or 7
0136	s0122'	2 at 15 P or 9 or 10 or T
0137	t0123'	-ve P or 9
0138	s0310'	1 at 15 10 or T
0139	t0534'	error
0140	u0461'	T
	,0000002'	
0141	002w0000'	
0142	00004wwq'	10 at 20 - 1 at 30
0143	a0315'	1 at 15
0144	t0130'	H
0145	u0504'	C
	,0000008'	
0146	9j004000'	"-" sign and order zone
0147	00090000'	9 at 15
0148	www80000'	-8 at 15
0149	00020000'	2 at 15
0150	00100000'	1 at 11
0151	0000000f'	10 at 31
0152	00000000'	temp.
0153	00100000'	1 at 11
0154	a0133'	1 at 11 - 12 at 15 [4 at 15]
0155	t0134'	T or P or R or I or blank
0156	s0149'	2 at 15 H or C or A or S
0157	t0143'	H or C
0158	s0316'	1 at 15
0159	t0241'	A
0160	u0560'	S
0161	z0000'	
0162	a0113'	4 at 15
0163	t0042'	Z or I

0200	s0057'	3 at 15	D to P
0201	t0034'	D or N or M	
0202	u0243'	P	
0203	a0146'	9j00,4000	
0204	u0426'		
0205	80xi0200'	read pattern for C	
0206	h0311'	pattern	
0207	u0526'		
0208	80xs6363'	mask	
0209	b0152'	temp.	
0210	e0132'	w3wwj	
0211	s0147'	9 at 15	
0212	t0162'	Z to P	
0213	s0263'	1 at 15	
0214	t0034'	E	
0215	s0358'	4 at 15	
0216	t0243'	U to C skip	
0217	u0034'	A or S print hex	
	,0000003'		
0218	0j004000'	space and order zone	
0219	0wwwwwqw'	maaa mask	
0221	e0307'	www,0000	
0222	h0152'	counter	
0223	b0000'	get next to print	
0224	r0446'	set common exit	
0225	u0000'	[ ] ALF 0412 HEX 0342 INST 0422	
0226	u0401'	check loop	
0227	c0256'	dump	
0228	80xi0200'		
0229	n0308'	1 at 29	
0230	e0502'	3wwwj	
0231	h0503'	T1	

0232	e0447'	3j3j0
0233	m0235'	-6 at 4
0234	u0252'	
	,0000002'	
0235	k0000000'	-6 at 4
0236	00040000'	4 at 15
0237	b0509'	u0243
0238	y0446'	Print hex exit
0239	b0000'	word to print
0240	u0342'	print hex routine
0241	b0406'	u0412
0242	u0339'	
0243	b0022'	b[next]
0244	s0359'	b[last]
0245	t0249'	-ve continue
0246	u0126'	finished
0247	u0318'	delay
0248	u0247'	delay
0249	a0021'	b[last + 1]
0250	y0022'	set for next
0251	u0031'	get next
0252	a0503'	T1
0253	h0311'	T2
0254	u0258'	
0255	u0422'	
	,0000002'	
0256	00000000'	dump
0257	00004000'	4 at 15
0258	e0051'	3wj00
0259	m0262'	-3/4 at 0
0260	a0311'	T2
0261	u0000'	end "binarize address"
	,0000003'	
0262	f0000000'	-3/4 at 0
0263	00010000'	1 at 15

0300	0000wwwj'	1 at 15 - 1 at 29
0301	b0223'	b[next]
0302	u0303'	
0303	r0446'	Print location
0304	u0448'	
0305	b0148'	-8 at 15
0306	u0222'	
	,0000005'	
0307	www0000'	
0308	00000004'	1 at 29
0309	00010000'	1 at 15
0310	00010000'	
0311	00000000'	T2 amd pattern
0312	s0701'	
0313	h0703'	
0314	u0126'	
	,0000002'	
0315	00010000'	1 at 15
0316	00010000'	
0317	u0243'	
0318	u0000'	end of delay
0319	b0049'	temp.
0320	h0000'	memory
0321	u0126'	
0322	z0000'	flag
0323	u0342'	
0324	b0726'	SS set stop HERE
0325	t0534'	error
0326	s0112'	1 at 30
0327	t0704'	-ve ok
0328	u0534'	error
	,0000003'	
0329	0j000000'	space
0330	7wwq0000'	
0331	00010000'	B[last]

0332	r0261'	read and binarize address
0333	u0227'	
0334	a0020'	1 at 29
0335	y0021'	last + 1
0336	s0308'	1 at 29
0337	y0359'	last
0338	u0029'	
0339	y0225'	
0340	u0453'	
0341	u0443'	
0342	80xp0200'	PRINT HEX
0343	80xi6200'	
0344	80xp0200'	
0345	80xi6200'	
0346	80xp0200'	
0347	80xi6200'	
0348	80xp0200'	
0349	80xi6200'	
0350	80xp0200'	
0351	80xi6200'	
0352	80xp0200'	
0353	80xi6200'	
0354	80xp0200'	
0355	80xi6200'	
0356	80xp0200'	
0357	u0443'	go to print spaces
	,0000001'	
0358	00040000'	4 at 15
0359	b0000'	last P
0360	r0261'	read and binarize address
0361	u0227'	
0362	u0312'	
	,0000001'	
0363	00003wwj'	mask



0400	xz0001'	1 at 29
0401	b0223'	next to print
0402	s0331'	b[last]
0403	t0407'	continue
0404	u0126'	finished
0405	z0000'	
0406	u0412'	
0407	a0129'	last + 1
0408	y0223'	
0409	a0152'	neg. flag at 15 +1 at 15 in acc.
0410	t0221'	-ve continue
0411	u0301'	carriage return and reset flag
0412	xp0200'	PRINT ALPHANUMERIC
0413	xi6200'	
0414	xp0200'	
0415	xi6200'	
0416	xp0200'	
0417	xi6200'	
0418	xp0200'	
0419	xi6200'	
0420	xp0200'	
0421	u0443'	go to print spaces
0422	e0208'	800w,3wwj PRINT INSTRUCTION FORMAT
0423	h0559'	T4
0424	t0203'	get minus sign and order zone
0425	a0218'	0j00,4000 space and order zone
0426	xp0200'	print sign space or -
0427	xi6200'	shift left 12
0428	xi6200'	
0429	xp0200'	print order
0430	b0559'	T4
0431	e0539'	3wwj

0432	d0142'	10 at 20 - 1 at 30 ,4wwq
0433	80xp0200'	track tens
0434	e0220'	Owww,wwwq
0435	n0151'	10 at 31
0436	80xp0200'	track units
0437	e0516'	Owww,wwwq
0438	d0511'	10 at 6 - ; at 30
0439	80xp0200'	sector tens
0440	e0219'	Owww,wwwq
0441	n0151'	10 at 31
0442	80xp0200'	sector units
0443	b0329'	space 0j00,0000
0444	xp0200'	print 2 spaces
0445	xp0200'	
0446	u0000'	exit
	,0000001'	
0447	0003j3j0'	
0448	e0363'	3wwj
0449	800t0126'	RETURN TO BEGINING OF ROUTINE IF "TC" IS ON
0450	a0501'	0j00,0000
0451	xp0200'	print space
0452	u0431'	
0453	r0261'	read and binarize address
0454	u0227'	
0455	u0456'	
0456	a0400'	1 at 29
0457	y0129'	last + 1
0458	s0730'	1 at 29
0459	y0331'	last
0460	u0301'	
0461	b0022'	
	TRANSFER T	
0462	y0500'	
0463	xz0001'	halt

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,00000004'
0500 000f0000' transfer to memory u[   ]
0501 40000000' 1 at 1
0502 0003wwwj'
0503 00000000' T1
0504 r0261' read upper limit
0505 u0227' for CLEAR PATTERN TO MEMORY C
0506 s0056' address
0507 n0257' 1 at 17
0508 u0512'
0509 u0243'
,00000002'
0510 00020000' 2 at 15 or 1 at 14
0511 13wwwwwq' 10 at 6 - 1 at 30
0512 a0056' address
0513 y0526'
0514 c0256'
0515 u0205'
,00000003'
0516 0wwwwwwq'
0517 00000010'
0518 00000000'
0519 b0000' R HERE
0520 h0049' temp.
0521 b0050' u0319
0522 h0000'
0523 u0126'
0524 xz0001' 1 at 29
0525 b0311'
0526 c0000' store pattern
0527 b0256' flag
0528 s0300' 1 at 15 - 1 at 29
0529 t0126' finished
0530 u0540' continue
0531 a0510' 2 at 15

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0532	t0620'	-ve storage
0533	u0534'	error
0534	b0543'	ERROR HERE [e]
0535	xp0200'	print "e"
0536	u0125'	go to error halt
	,0000003'	
0537	0000wwj'	1 at 15 - 1 at 29
0538	00g00000'	6 at 11
0539	00003wwj'	
0540	y0526'	
0541	h0256'	flag
0542	u0525'	
	,0000001'	
0543	94000000'	
0544	b0000'	
0545	e0731'	3wwj
0546	s0311'	test address
0547	t0550'	not equal
0548	s0020'	1 at 29
0549	t0607'	= test address
0550	b0322'	flag
0551	s0537'	1 at 15 - 1 at 29
0552	t0126'	finished
0553	u0556'	continue
0554	z0000'	
0555	xz0001'	1 at 29
0556	y0544'	
0557	h0322'	flag
0558	u0544'	
0559	z0000'	T4
0560	r0261'	SEARCH FOR ADDRESS
0561	u0227'	read and binarize address
0562	s0056'	address
0563	n0257'	1 at 17

0600 a0056' address  
0601 y0544' set up search  
0602 h0322' flag  
0603 r0261' read address to be lookd for  
0604 u0227'  
0605 h0311' test address  
0606 u0544'  
0607 b0544'  
0608 y0611' print address  
0609 r0446'  
0610 u0448' Print order of found address  
0611 b0000' contents of found address reference  
0612 e0141' 2w,0000  
0613 a0218' 0j00,4000 save order with zone bits  
0614 xi6200' left 12 to print position  
0615 xi6200'  
0616 xp0200' print order  
0617 u0550'  
0618 z0000'  
0619 z0000'  
0620 b0056' address STORE SOMETHING HERE  
0621 y0643'  
0622 s0701' Beginning of protected zone  
0623 t0626' -ve ok not within protected zone  
0624 s0703' extent of protected zone  
0625 t0534' error - tried to store in protected zone  
0626 c0405' dump  
0627 80xi0200' read something; inst.; h for hex; or a for alpha  
0628 h0700' temp  
0629 s0708' l at 27  
0630 t0652' possible a ro h  
0631 a0517' l at 27

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0632 r0261' binarize address
0633 u0229'
0634 y0700' set binarized address into instruction
0635 b0700' instruction with bin. address and trash from bcd entry
0636 e0715' 800w,3wwj trim off trash
0637 u0643'
0638 xz0003' 3 at 29
0639 a0638' 6 at 30
0640 u0632'
      0641 c0700' dump
      0642 80xi0200'
      0643 h0000'
      0644 u0126'
      0645 t0649'
      0646 s0112' 1 at 30
      0647 t0534' error nothing there
      0648 a0112' 1 at 30
      0649 c0000' restore memory
      0650 c0726' clear table entry
      0651 u0126'
      0652 a0524' 1 at 27 - 6 at 30
      0653 t0639' not a or h
      0654 s0112' 1 at 30
      0655 t0641' h for hex
      0656 c0311' dump ALPHA
      0657 xi0200' read alpha word
      0658 n0524' 1 at 29 left 2 bits
      0659 u0643'
      0660 r0261' HERE TO SET LIMITS FOR PROTECTED ZONE
      0661 u0227' read and binarize address
      0662 h0701' lower limit
      0663 u0360'

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0700	z0000'	
0701	z0000'	Beginning of protected zone
0702	u0725'	
	,0000001'	
0703	00000780'	Extent of protected zone 7T32S
0704	b0056'	address
0705	y0713'	
0706	y0718'	
0707	u0709'	
0708	xz0004'	4 at 29
0709	a0524'	1 at 29
0710	y0727'	
0711	a0524'	1 at 29
0712	y0728'	
0713	b0000'	inst. to replace
0714	u0716'	
0715	80xs6363'	mask
0716	h0726'	table [2]
0717	b0702'	u0725
0718	h0000'	memory
0719	u0126'	
0720	b0727'	REMOVE STOP
0721	s0555'	1 at 29
0722	y0649'	
0723	b0726'	
0724	u0645'	
	,0000007'	
0725	00000000'	STOP
0726	00000000'	INSTRUCTION FROM MEMORY
0727	000f0000'	TRANSFER TO N + 1
0728	000f0000'	TRANSFER TO N + 2
0729	00000000'	
0730	00000004'	1 at 29
0731	00003wwj'	mask

.1000000'