

KD11

XOR INST TEST
CCKBCCO

AH-T306C-MC
FICHE 1 OF 1

JAN 1983
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Microfiche grid containing multiple frames of data, including text and diagrams.

Frame	Content
1	Text and diagram
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.TITLE CCKBCCO PDP11/45 XOR INST TEST
.REM 8

IDENTIFICATION

PRODUCT CODE: AC-7790C-MC
PRODUCT NAME: CCKBCCO XOR INST TEST
DATE CREATED: 15 NOV 1972
REVISED: 08 JULY 1982
THOMAS DAVIES
MAINTAINER: DIAGNOSTIC GROUP
AUTHORS: JOHN ADAMS

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THIS GROUP OF TESTS CONSIST OF:

MAINDEC NO.	TEST FUNCTION	PROCESSOR
DCKBA-A	SXT INSTRUCTION	11/45,11/40
DCKBB-A	SOB INSTRUCTION	11/45,11/40
DCKBC-A	XOR INSTRUCTION	11/45,11/40
DCKBD-B	MARK INSTRUCTION	11/45,11/40
DCKBE-B	RTT INSTRUCTION	11/45,11/40

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61
 62
 63 1.0 ABSTRACT
 64
 65 THIS IS THE FIRST 5 OF 15 TESTS THAT INCREMENTALLY TEST AND
 66 ISOLATE SIMPLE MALFUNCTIONS IN THE PDP 11/45,11/40. THE
 67 TESTS SHOULD BE RUN IN THE INDICATED ALPHABETIC SEQUENCE.
 68 THERE ARE ADDITIONAL TESTS FOR MORE COMPLEX MALFUNCTIONS.
 69 ALL TESTS ARE EXECUTED IN KERNEL MODE ONLY EXCEPT FOR TEST
 70 DCKBE (11/45 ONLY).
 71
 72
 73 2.0 REQUIREMENTS
 74
 75
 76 2.1 EQUIPMENT
 77
 78 PDP11/45 OR PDP 11/40
 79
 80
 81 2.2 STORAGE
 82
 83 PROGRAM STORAGE - THE PROGRAMS USE ALL OF A 4KW MEMORY WITH
 84 THE EXCEPTION OF 17500 TO 17776 (WHICH IS RESERVED FOR THE
 85 BOOT AND ABSOLUTE LOADER).
 86
 87
 88 2.3 PRELIMINARY PROGRAMS
 89
 90 TESTS TO-T13(DOAA-DOMA)
 91
 92
 93 3.0 LOADING PROCEDURE
 94
 95 LOAD PROGRAM INTO MEMORY USING ABS LOADER.
 96
 97
 98 4.0 STARTING PROCEDURE
 99
 100 LOAD ADDRESS 200. PRESS START. THE PROGRAM WILL LOOP, AND
 101 RING BELL ON COMPLETION. PASS COUNT MAY BE MONITORED IN THE
 102 DISPLAY REGISTER (11/45 ONLY), AND IS STORED IN ADDRESS
 103 1000.
 104
 105
 106 5.0 OPERATING PROCEDURE
 107
 108
 109 5.1 OPERATIONAL SWITCH SETTINGS
 110
 111 SW<08>=1 LOAD PDP11/45 MICRO BREAK REGISTER WITH VALUE
 112 IN SW<00-07>. (AT START OF TEST ONLY).
 113
 114
 115
 116 5.2 SUBROUTINE ABSTRACTS

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117
 118
 119 5.2.1 SCOPE
 120
 121 SCOPE IS A MOVE PC, R1(010701) AND STORES THE PC+2 IN R1 (OR
 122 R11 IF THE REGISTER SET BIT IS SET IN THE PDP11/45 PROCESSOR
 123 STATUS WORD.) THUS, R1 (R11) MAY BE USED AS A TAG TO
 124 DETERMINE THE LAST TEST SUCCESSFULLY COMPLETED.
 125
 126
 127 5.2.2 HLT
 128
 129 HLT IS A HALT INSTRUCTION AND IS EXECUTED WHENEVER A
 130 HARDWARE MALFUNCTION IS DETECTED BY THE DIAGNOSTIC. THE
 131 ADDRESS LIGHTS DISPLAY THE PC-PC+2 OF THE HALT INSTRUCTION
 132 IF AN 11/40-11/45.
 133
 134
 135 5.3 PROGRAM AND/OR OPERATOR ACTION
 136
 137
 138 5.3.1 PASS COUNT (ICNT)
 139
 140 THE NUMBER OF PROGRAM PASSES COMPLETED IS CONTAINED IN
 141 ADDRESS ICNT (1000). THIS ADDRESS MAY BE EXAMINED TO
 142 DETERMINE IN WHICH PASS THE ERROR OCCURED. NOTE, THE PASS
 143 COUNT IS DISPLAYED IN THE DISPLAY REGISTER IN THE PDP11/45.
 144
 145
 146 6.0 ERRORS
 147
 148
 149 6.1 TEST ERRORS WILL CAUSE A HALT
 150
 151 FALSE TRAP/INTERRUPT ERRORS - THE PROGRAM WILL HALT AT THE
 152 TRAP VECTOR ADDRESS +2.
 153
 154
 155 6.2 ERROR RECOVERY
 156
 157 TEST ERRORS - PRESS CONTINUE OR LOOP TEST (SEE SEC 6.3)
 158 TRAP ERRORS - DETERMINE WHERE ERROR OCCURRED (SEE SEC 8)
 159
 160
 161
 162 6.3 ERROR LOOPING
 163
 164 TO LOOP ON AN ERROR REPLACE THE HLT INSTRUCTION WITH A
 165 BRANCH BACK TO THE PREVIOUS SCOPE INSTRUCTION. NOTE THAT IF
 166 THE ERROR IS INTERMITTENT THAT THE TEST WILL DROP THROUGH
 167 THE HLT AND PROCEED TO THE NEXT TEST, THEREFORE TO LOOP THE
 168 TEST CONTINUOUSLY REPLACE THE BEQ .+4 INSTRUCTION IMMEDIATLY
 169 PRECEEDING THE HLT WITH THE BRANCH BACK TO THE PREVIOUS
 170 SCOPE.
 171
 172 TO LOOP TRAP FAILURES PATCH IN THE FOLLOWING ROUTINE AT THE

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ADDRESS OF THE TRAP VECTOR:

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TRAPVEC: TRAPVEC+4
 TRAPVEC+2: 0
 TRAPVEC+4: 012716 ;MOVE 'SCOPE'
 ;ADDRESS TO STACK
 TRAPVEC+6: ADDRESS ;ADDRESS OF PREVIOUS
 ;SCOPE INST.
 TRAPVEC+10: 000006 ;RETURN TO TEST AT 'SCOPE'

RESTORE ALL LOCATIONS BEFORE PROCEEDING TO NEXT TEST(S).

7.0 RESTRICTIONS

THESE PROGRAMS MUST BE LOADED IN THE LOWER 4K OF MEMORY.

7.1 STARTING RESTRICTION

ALL PROGRAMS MUST BE INITIALLY STARTED AT 200 AND MAY BE STARTED AT A SCOPE INSTRUCTION THEREAFTER.

7.2 OPERATIONAL RESTRICTION

NONE

8.0 MISCELLANEOUS

IF A HALT OCCURS IN THE TRAP OR INTERRUPT VECTOR AREA, EXAMINE REGISTER 6 (THE STACK POINTER). THE CONTENTS OF R6 CONTAINS THE ADDRESS WHERE THE PC OF THE INSTRUCTION THAT CAUSED THE TRAP IS STORED.

8.1 EXECUTION TIME

ALL TESTS TAKE APPROXIMATELY 1 MINUTE EACH ON AN 11/45 WITH CORE MEMORY.

8.2 STACK POINTER

ALL PROGRAMS INITIALLY SET THE STACK POINTER AT 500

9.0 PROGRAM DESCRIPTION

DCKBA THIS IS A TEST OF THE SXT INSTRUCTION AND INSURES CORRECT RESULTS AND CONDITION CODE OPERATION. THE SXT INSTRUCTION IS TESTED IN ALL ADDRESS MODES IN A GENERAL REGISTER AND THE PC.

DCKBB THIS IS A TEST OF THE SOB INSTRUCTION AND INSURES CORRECT BRANCHING AND CONDITION CODE OPERATION.

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DCKBC THIS IS A TEST OF THE XOR INSTRUCTION AND INSURES
CORRECT RESULTS AND CONDITION CODE OPERATION. THE
XOR INSTRUCTION IS EXECUTED USING VARIOUS OPERANDS
AND IS EXECUTED USING ALL ADDRESS MODES USING A
GENERAL REGISTER AND THE PC.

DCKBD THIS IS A TEST OF THE MARK INSTRUCTION. THE TEST
EXECUTES THE MARK INSTRUCTION USING ALL VALUES OF
'N' AND CHECKS RESULTS. CORRECT CONDITION CODE
OPERATION IS ALSO TESTED.

DCKBE THIS IS A TEST OF THE RTT AND RTI INSTRUCTIONS AND
USES 'T' BIT TRAPS IN THE TEST. PROPER STACK
OPERATION IS TESTED AND ALSO PROPER STATUS CHANGES
ARE TESTED.

&

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.TITLE CCKBCCO PDP11/45 XOR INST TEST
.NLIST MD,MC,CND,SEQ
.LIST ME
.ABS

;TEST CCKBCC- TEST OF THE XOR INSTRUCTION AND INCLUDES DATA CHECKS AND
;CONDITION CODES CHECKS
; THE XOR INSTRUCTION IS ESSENTIALLY A 'HALF ADD' INSTRUCTION, IE. IF
;THE CORRESPONDING BIT IN THE SOURCE AND DESTINATION ADDRESS ARE THE
;SAME THE RESULT IN DESTINATION ADDRESS IS A '0' IN THAT BIT POSITION.
;AND, IF THE CORRESPONDING BITS ARE DIFFERENT THEN THE RESULT IS A '1'
;IN THAT BIT POSITION. THE CONDITION CODES ARE AFFECTED AS FOLLOWS:
; 'Z' IS SET IF THE RESULT IS = TO 0, OTHERWISE IT IS CLEARED
; 'N' IS SET IF THE RESULT IS NEGATIVE, CLEARED IF POSITIVE
; 'C' IS UNCHANGED
; 'V' IS CLEARED

;FUNCTIONS NOT TESTED BY THIS PROGRAM
;1: THAT XOR WILL EXPLICITLY CHANGE THE USER/EXEC BIT IN THE STATUS WORD.
;STARTING PROCEEDURE
; LOAD ADDRESS=200
; PRESS START
; STACK POINTER IS SET AT 500
; BELL WILL RING WHEN TEST IS COMPLETE

010701
000000
177776
177770
177564
177566
177570
177570

SCOPE=010701 ;MOV PC,R1
HLT=HALT
PSW=177776 ;ADDRESS OF PROCESSOR STATUS WORD
UBREAK=177770 ;ADDRESS OF MICRO BREAK REGISTER
TPCSR=177564 ;ADDRESS OF TELEPRINTER CSR
TBUF=177566 ;ADDRESS OF TELEPRINTER BUFFER
SWR=177570 ;ADDRESS OF CONSOLE SWITCH REGISTER
DISPLAY=177570 ;ADDRESS OF CONSOLE LIGHT REGISTER

000500

*****INITIAL STACK POINTER=0500*****
STKPTR=0500 ;INITIAL STACK SETTING

000000
700000 000002
000002 000000
000004 000006
000006 000000
000010 000012
000012 000000
000014 000016
000016 000000
000020 000022
000022 000000
000024 000026
000026 000000

. =0
. +2
HALT
. +2
HALT
. +2
HALT
. +2
HALT
. +2
HALT
. +2
HALT
. +2
HALT

000030	000032	.+2
000032	000000	HALT
000034	000036	.+2
000036	000000	HALT
000040	000042	.+2
000042	000000	HALT
000044	000046	.+2
000046	000000	HALT
000050	000052	.+2
000052	000000	HALT
000054	000056	.+2
000056	000000	HALT
000060	000062	.+2
000062	000000	HALT
000064	000066	.+2
000066	000000	HALT
000070	000072	.+2
000072	000000	HALT
000074	000076	.+2
000076	000000	HALT
000100	000102	.+2
000102	000000	HALT
000104	000106	.+2
000106	000000	HALT
000110	000112	.+2
000112	000000	HALT
000114	000116	.+2
000116	000000	HALT
000120	000122	.+2
000122	000000	HALT
000124	000126	.+2
000126	000000	HALT
000130	000132	.+2
000132	000000	HALT
000134	000136	.+2
000136	000000	HALT
000140	000142	.+2
000142	000000	HALT
000144	000146	.+2
000146	000000	HALT
000150	000152	.+2
000152	000000	HALT
000154	000156	.+2
000156	000000	HALT
000160	000162	.+2
000162	000000	HALT
000164	000166	.+2
000166	000000	HALT
000170	000172	.+2
000172	000000	HALT
000174	000176	.+2
000176	000000	HALT
000200	000202	.+2
000202	000000	HALT
000204	000206	.+2
000206	000000	HALT

000210	000212	.+2
000212	000000	HALT
000214	000216	.+2
000216	000000	HALT
000220	000222	.+2
000222	000000	HALT
000224	000226	.+2
000226	000000	HALT
000230	000232	.+2
000232	000000	HALT
000234	000236	.+2
000236	000000	HALT
000240	000242	.+2
000242	000000	HALT
000244	000246	.+2
000246	000000	HALT
000250	000252	.+2
000252	000000	HALT
000254	000256	.+2
000256	000000	HALT
000260	000262	.+2
000262	000000	HALT
000264	000266	.+2
000266	000000	HALT
000270	000272	.+2
000272	000000	HALT
000274	000276	.+2
000276	000000	HALT
000300	000302	.+2
000302	000000	HALT
000304	000306	.+2
000306	000000	HALT
000310	000312	.+2
000312	000000	HALT
000314	000316	.+2
000316	000000	HALT
000320	000322	.+2
000322	000000	HALT
000324	000326	.+2
000326	000000	HALT
000330	000332	.+2
000332	000000	HALT
000334	000336	.+2
000336	000000	HALT
000340	000342	.+2
000342	000000	HALT
000344	000346	.+2
000346	000000	HALT
000350	000352	.+2
000352	000000	HALT
000354	000356	.+2
000356	000000	HALT
000360	000362	.+2
000362	000000	HALT
000364	000366	.+2
000366	000000	HALT

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000370 000372      .+2
000372 000000      HALT
000374 000376      .+2
000376 000000      HALT

      000046      .=46
000046 007440      LOGICAL
      000052      .=52
000052 040000      40000

      000200      .=200
000200 000167 000576 JMP      START
      001000      .=1000
001000 000000      ICNT: 0 ;CONTAINS PASS COUNT
001002 005067 177772 START: CLR ICNT ;CLEAR PASS COUNT
001006 012737 000000 177776 BEGIN: MOV #0,@#PSW ;ALLOW INTERRUPTS ** 22-JUNE-82 **
001014 012706 000500      MOV #STKPTR,%6 ;INITIALIZE STACK POINTER
001020 016737 177754 177570      MOV ICNT,@#DISPLAY ;DISPLAY PASS COUNT
001026 032737 000400 177570      BIT #400,@#SWR ;LOAD MICRO BREAK REGISTER?
001034 001403      BEQ .+10
001036 113737 177570 177770      MOVB @#SWR,@#UBREAK ;LOAD MICRO BREAK REG WITH SRO-7
      000002      SOURCE=%2
      000000      DEST=%0
      000000      Y=0

001044 010701      SCOPE
001046 012702 000000      MOV #0,SOURCE ;MOVE SOURCE OPERAND TO SOURCE
001052 012700 000000      MOV #0,DEST ;MOVE DESTINATION OPERAND TO DESTINATION
001056 000257      CCC
001060 074200      XOR SOURCE,DEST ;XOR SOURCE AND DESTINATION
001062 103001      BCC .+4
001064 000000      HLT ;ERROR! CARRY CHANGED
001066 102001      BVC .+4
001070 000000      HLT ;ERROR! V FAILED TO CLEAR
001072 020027 000000      CMP DEST,#0 ;DEST=0?
001076 001401      BEQ .+4
001100 000000      HLT ;0 XOR 0 FAILED

      Y=Y+1
001102 010701      SCOPE
001104 012702 125252      MOV #125252,SOURCE ;MOVE SOURCE OPERAND TO SOURCE
001110 012700 125252      MOV #125252,DEST ;MOVE DESTINATION OPERAND TO DESTINATION
001114 000277      SCC
001116 074200      XOR SOURCE,DEST ;XOR SOURCE AND DESTINATION
001120 103401      BCS .+4
001122 000000      HLT ;ERROR! CARRY CHANGED
001124 102001      BVC .+4
001126 000000      HLT ;ERROR! V FAILED TO CLEAR
001130 020027 000000      CMP DEST,#0 ;DEST=0?
001134 001401      BEQ .+4
001136 000000      HLT ;125252 XOR 125252 FAILED

      Y=Y+1
001140 010701      SCOPE
001142 012702 052525      MOV #052525,SOURCE ;MOVE SOURCE OPERAND TO SOURCE
001146 012700 052525      MOV #052525,DEST ;MOVE DESTINATION OPERAND TO DESTINATION
001152 000257      CCC

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001154	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
001156	103001		BCC	.+4	
001160	000000		HLT		;ERROR! CARRY CHANGED
001162	102001		BVC	.+4	
001164	000000		HLT		;ERROR! V FAILED TO CLEAR
001166	020027	000000	CMP	DEST,#0 ;DEST=0?	
001172	001401		BEQ	.+4	
001174	000000		HLT		;052525 XOR 052525 FAILED
	000003		Y=Y+1		
001176	010701		SCOPE		
001200	012702	177777	MOV	#-1,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
001204	012700	177777	MOV	#-1,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
001210	000277		SCC		
001212	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
001214	103401		BCS	.+4	
001216	000000		HLT		;ERROR! CARRY CHANGED
001220	102001		BVC	.+4	
001222	000000		HLT		;ERROR! V FAILED TO CLEAR
001224	020027	000000	CMP	DEST,#0 ;DEST=0?	
001230	001401		BEQ	.+4	
001232	000000		HLT		; -1 XOR -1 FAILED
	000004		Y=Y+1		
001234	010701		SCOPE		
001236	012702	125252	MOV	#125252,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
001242	012700	052525	MOV	#052525,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
001246	000257		CCC		
001250	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
001252	103001		BCC	.+4	
001254	000000		HLT		;ERROR! CARRY CHANGED
001256	102001		BVC	.+4	
001260	000000		HLT		;ERROR! V FAILED TO CLEAR
001262	020027	177777	CMP	DEST,#-1	;DEST=-1?
001266	001401		BEQ	.+4	
001270	000000		HLT		;125252 XOR 052525 FAILED
	000005		Y=Y+1		
001272	010701		SCOPE		
001274	012702	052525	MOV	#052525,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
001300	012700	125252	MOV	#125252,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
001304	000277		SCC		
001306	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
001310	103401		BCS	.+4	
001312	000000		HLT		;ERROR! CARRY CHANGED
001314	102001		BVC	.+4	
001316	000000		HLT		;ERROR! V FAILED TO CLEAR
001320	020027	177777	CMP	DEST,#-1	;DEST=-1?
001324	001401		BEQ	.+4	
001326	000000		HLT		;052525 XOR 125252 FAILED
	000006		Y=Y+1		
001330	010701		SCOPE		
001332	012702	100000	MOV	#100000,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
001336	012700	100001	MOV	#100001,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
001342	000257		CCC		

001344	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
001346	103001		BCC	+.4	
001350	000000		HLT		;ERROR! CARRY CHANGED
001352	102001		BVC	+.4	
001354	000000		HLT		;ERROR! V FAILED TO CLEAR
001356	020027	000001	CMP	DEST,#1 ;DEST=1?	
001362	001401		BEQ	+.4	
001364	000000		HLT		;100000 XOR 100001 FAILED
	000007		Y=Y+1		
001366	010701		SCOPE		
001370	012702	077777	MOV	#77777,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
001374	012700	100000	MOV	#100000,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
001400	000277		SCC		
001402	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
001404	103401		BCS	+.4	
001406	000000		HLT		;ERROR! CARRY CHANGED
001410	102001		BVC	+.4	
001412	000000		HLT		;ERROR! V FAILED TO CLEAR
001414	020027	177777	CMP	DEST,#-1	;DEST=-1?
001420	001401		BEQ	+.4	
001422	000000		HLT		;77777 XOR 100000 FAILED
	000010		Y=Y+1		
	000001		N=1		
001424	010701		SCOPE		
001426	012702	000001	MOV	#1,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
001432	012700	000001	MOV	#1,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
001436	000257		CCC		
001440	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
001442	103001		BCC	+.4	
001444	000000		HLT		;ERROR! CARRY CHANGED
001446	102001		BVC	+.4	
001450	000000		HLT		;ERROR! V FAILED TO CLEAR
001452	020027	000000	CMP	DEST,#0 ;DEST=0?	
001456	001401		BEQ	+.4	
001460	000000		HLT		;1 XOR 1 FAILED
	000011		Y=Y+1		
	000002		N=N+N		
001462	010701		SCOPE		
001464	012702	000002	MOV	#2,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
001470	012700	000002	MOV	#2,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
001474	000277		SCC		
001476	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
001500	103401		BCS	+.4	
001502	000000		HLT		;ERROR! CARRY CHANGED
001504	102001		BVC	+.4	
001506	000000		HLT		;ERROR! V FAILED TO CLEAR
001510	020027	000000	CMP	DEST,#0 ;DEST=0?	
001514	001401		BEQ	+.4	
001516	000000		HLT		;2 XOR 2 FAILED
	000012		Y=Y+1		
	000004		N=N+N		

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001520	010701		SCOPE	
001522	012702	000004	MOV	#4,SOURCE ;MOVE SOURCE OPERAND TO SOURCE
001526	012700	000004	MOV	#4,DEST ;MOVE DESTINATION OPERAND TO DESTINATION
001532	000257		CCC	
001534	074200		XOR	SOURCE,DEST ;XOR SOURCE AND DESTINATION
001536	103001		BCC	+.4
001540	000000		HLT	;ERROR! CARRY CHANGED
001542	102001		BVC	+.4
001544	000000		HLT	;ERROR! V FAILED TO CLEAR
001546	020027	000000	CMP	DEST,#0 ;DEST=0?
001552	001401		BEQ	+.4
001554	000000		HLT	;4 XOR 4 FAILED
	000013		Y=Y+1	
	000010		N=N+N	
001556	010701		SCOPE	
001560	012702	000010	MOV	#10,SOURCE ;MOVE SOURCE OPERAND TO SOURCE
001564	012700	000010	MOV	#10,DEST ;MOVE DESTINATION OPERAND TO DESTINATION
001570	000277		SCC	
001572	074200		XOR	SOURCE,DEST ;XOR SOURCE AND DESTINATION
001574	103401		BCS	+.4
001576	000000		HLT	;ERROR! CARRY CHANGED
001600	102001		BVC	+.4
001602	000000		HLT	;ERROR! V FAILED TO CLEAR
001604	020027	000000	CMP	DEST,#0 ;DEST=0?
001610	001401		BEQ	+.4
001612	000000		HLT	;10 XOR 10 FAILED
	000014		Y=Y+1	
	000020		N=N+N	
001614	010701		SCOPE	
001616	012702	000020	MOV	#20,SOURCE ;MOVE SOURCE OPERAND TO SOURCE
001622	012700	000020	MOV	#20,DEST ;MOVE DESTINATION OPERAND TO DESTINATION
001626	000257		CCC	
001630	074200		XOR	SOURCE,DEST ;XOR SOURCE AND DESTINATION
001632	103001		BCC	+.4
001634	000000		HLT	;ERROR! CARRY CHANGED
001636	102001		BVC	+.4
001640	000000		HLT	;ERROR! V FAILED TO CLEAR
001642	020027	000000	CMP	DEST,#0 ;DEST=0?
001646	001401		BEQ	+.4
001650	000000		HLT	;20 XOR 20 FAILED
	000015		Y=Y+1	
	000040		N=N+N	
001652	010701		SCOPE	
001654	012702	000040	MOV	#40,SOURCE ;MOVE SOURCE OPERAND TO SOURCE
001660	012700	000040	MOV	#40,DEST ;MOVE DESTINATION OPERAND TO DESTINATION
001664	000277		SCC	
001666	074200		XOR	SOURCE,DEST ;XOR SOURCE AND DESTINATION
001670	103401		BCS	+.4
001672	000000		HLT	;ERROR! CARRY CHANGED
001674	102001		BVC	+.4
001676	000000		HLT	;ERROR! V FAILED TO CLEAR
001700	020027	000000	CMP	DEST,#0 ;DEST=0?
001704	001401		BEQ	+.4

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001706	000000		HLT		;40 XOR 40 FAILED
	000016		Y=Y+1		
	000100		N=N+N		
001710	010701		SCOPE		
001712	012702	000100	MOV	#100,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
001716	012700	000100	MOV	#100,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
001722	000257		CCC		
001724	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
001726	103001		BCC	+.4	
001730	000000		HLT		;ERROR! CARRY CHANGED
001732	102001		BVC	+.4	
001734	000000		HLT		;ERROR! V FAILED TO CLEAR
001736	020027	000000	CMP	DEST,#0 ;DEST=0?	
001742	001401		BEQ	+.4	
001744	000000		HLT		;100 XOR 100 FAILED
	000017		Y=Y+1		
	000200		N=N+N		
001746	010701		SCOPE		
001750	012702	000200	MOV	#200,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
001754	012700	000200	MOV	#200,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
001760	000277		SCC		
001762	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
001764	103401		BCS	+.4	
001766	000000		HLT		;ERROR! CARRY CHANGED
001770	102001		BVC	+.4	
001772	000000		HLT		;ERROR! V FAILED TO CLEAR
001774	020027	000000	CMP	DEST,#0 ;DEST=0?	
002000	001401		BEQ	+.4	
002002	000000		HLT		;200 XOR 200 FAILED
	000020		Y=Y+1		
	000400		N=N+N		
002004	010701		SCOPE		
002006	012702	000400	MOV	#400,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
002012	012700	000400	MOV	#400,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
002016	000257		CCC		
002020	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
002022	103001		BCC	+.4	
002024	000000		HLT		;ERROR! CARRY CHANGED
002026	102001		BVC	+.4	
002030	000000		HLT		;ERROR! V FAILED TO CLEAR
002032	020027	000000	CMP	DEST,#0 ;DEST=0?	
002036	001401		BEQ	+.4	
002040	000000		HLT		;400 XOR 400 FAILED
	000021		Y=Y+1		
	001000		N=N+N		
002042	010701		SCOPE		
002044	012702	001000	MOV	#1000,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
002050	012700	001000	MOV	#1000,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
002054	000277		SCC		
002056	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
002060	103401		BCS	+.4	
002062	000000		HLT		;ERROR! CARRY CHANGED

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002064	102001		BVC	.+4	
002066	000000		HLT		;ERROR! V FAILED TO CLEAR
002070	020027	000000	CMP	DEST,#0 ;DEST=0?	
002074	001401		BEQ	.+4	
002076	000000		HLT		;1000 XOR 1000 FAILED
	000022		Y=Y+1		
	002000		N=N+N		
002100	010701		SCOPE		
002102	012702	002000	MOV	#2000,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
002106	012700	002000	MOV	#2000,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
002112	000257		CCC		
002114	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
002116	103001		BCC	.+4	
002120	000000		HLT		;ERROR! CARRY CHANGED
002122	102001		BVC	.+4	
002124	000000		HLT		;ERROR! V FAILED TO CLEAR
002126	020027	000000	CMP	DEST,#0 ;DEST=0?	
002132	001401		BEQ	.+4	
002134	000000		HLT		;2000 XOR 2000 FAILED
	000023		Y=Y+1		
	004000		N=N+N		
002136	010701		SCOPE		
002140	012702	004000	MOV	#4000,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
002144	012700	004000	MOV	#4000,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
002150	000277		SCC		
002152	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
002154	103401		BCS	.+4	
002156	000000		HLT		;ERROR! CARRY CHANGED
002160	102001		BVC	.+4	
002162	000000		HLT		;ERROR! V FAILED TO CLEAR
002164	020027	000000	CMP	DEST,#0 ;DEST=0?	
002170	001401		BEQ	.+4	
002172	000000		HLT		;4000 XOR 4000 FAILED
	000024		Y=Y+1		
	010000		N=N+N		
002174	010701		SCOPE		
002176	012702	010000	MOV	#10000,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
002202	012700	010000	MOV	#10000,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
002206	000257		CCC		
002210	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
002212	103001		BCC	.+4	
002214	000000		HLT		;ERROR! CARRY CHANGED
002216	102001		BVC	.+4	
002220	000000		HLT		;ERROR! V FAILED TO CLEAR
002222	020027	000000	CMP	DEST,#0 ;DEST=0?	
002226	001401		BEQ	.+4	
002230	000000		HLT		;10000 XOR 10000 FAILED
	000025		Y=Y+1		
	020000		N=N+N		
002232	010701		SCOPE		
002234	012702	020000	MOV	#20000,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
002240	012700	020000	MOV	#20000,DEST	;MOVE DESTINATION OPERAND TO DESTINATION

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002244	000277		SCC		
002246	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
002250	103401		BCS	.+4	
002252	000000		HLT		;ERROR! CARRY CHANGED
002254	102001		BVC	.+4	
002256	000000		HLT		;ERROR! V FAILED TO CLEAR
002260	020027	000000	CMP	DEST,#0 ;DEST=0?	
002264	001401		BEQ	.+4	
002266	000000		HLT		;20000 XOR 20000 FAILED
	000026		Y=Y+1		
	040000		N=N+N		
002270	010701		SCOPE		
002272	012702	040000	MOV	#40000,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
002276	012700	040000	MOV	#40000,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
002302	000257		CCC		
002304	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
002306	103001		BCC	.+4	
002310	000000		HLT		;ERROR! CARRY CHANGED
002312	102001		BVC	.+4	
002314	000000		HLT		;ERROR! V FAILED TO CLEAR
002316	020027	000000	CMP	DEST,#0 ;DEST=0?	
002322	001401		BEQ	.+4	
002324	000000		HLT		;40000 XOR 40000 FAILED
	000027		Y=Y+1		
	100000		N=N+N		
002326	010701		SCOPE		
002330	012702	100000	MOV	#100000,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
002334	012700	100000	MOV	#100000,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
002340	000277		SCC		
002342	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
002344	103401		BCS	.+4	
002346	000000		HLT		;ERROR! CARRY CHANGED
002350	102001		BVC	.+4	
002352	000000		HLT		;ERROR! V FAILED TO CLEAR
002354	020027	000000	CMP	DEST,#0 ;DEST=0?	
002360	001401		BEQ	.+4	
002362	000000		HLT		;100000 XOR 100000 FAILED
	000030		Y=Y+1		
	000000		N=N+N		
	000001		N=1		
002364	010701		SCOPE		
002366	012702	177777	MOV	#-1,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
002372	012700	000001	MOV	#1,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
002376	000257		CCC		
002400	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
002402	103001		BCC	.+4	
002404	000000		HLT		;ERROR! CARRY CHANGED
002406	102001		BVC	.+4	
002410	000000		HLT		;ERROR! V FAILED TO CLEAR
002412	020027	177776	CMP	DEST,#177776	;DEST=177776?
002416	001401		BEQ	.+4	
002420	000000		HLT		;-1 XOR 1 FAILED

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	000031		Y=Y+1	
	000002		N=N+N	
	010701		SCOPE	
002422	012702	177777	MOV	#-1,SOURCE ;MOVE SOURCE OPERAND TO SOURCE
002424	012700	000002	MOV	#2,DEST ;MOVE DESTINATION OPERAND TO DESTINATION
002430	000277		SCC	
002434	074200		XOR	SOURCE,DEST ;XOR SOURCE AND DESTINATION
002436	103401		BCS	+.4
002440	000000		HLT	;ERROR! CARRY CHANGED
002442	102001		BVC	+.4
002444	000000		HLT	;ERROR! V FAILED TO CLEAR
002446	020027	177775	CMP	DEST,#177775 ;DEST=177775?
002450	001401		BEQ	+.4
002454	000000		HLT	;-1 XOR 2 FAILED
	000032		Y=Y+1	
	000004		N=N+N	
	010701		SCOPE	
002460	012702	177777	MOV	#-1,SOURCE ;MOVE SOURCE OPERAND TO SOURCE
002462	012700	000004	MOV	#4,DEST ;MOVE DESTINATION OPERAND TO DESTINATION
002466	000257		CCC	
002472	074200		XOR	SOURCE,DEST ;XOR SOURCE AND DESTINATION
002474	103001		BCC	+.4
002476	000000		HLT	;ERROR! CARRY CHANGED
002500	102001		BVC	+.4
002502	000000		HLT	;ERROR! V FAILED TO CLEAR
002504	020027	177773	CMP	DEST,#177773 ;DEST=177773?
002506	001401		BEQ	+.4
002512	000000		HLT	;-1 XOR 4 FAILED
	000033		Y=Y+1	
	000010		N=N+N	
	010701		SCOPE	
002516	012702	177777	MOV	#-1,SOURCE ;MOVE SOURCE OPERAND TO SOURCE
002520	012700	000010	MOV	#10,DEST ;MOVE DESTINATION OPERAND TO DESTINATION
002524	000277		SCC	
002530	074200		XOR	SOURCE,DEST ;XOR SOURCE AND DESTINATION
002532	103401		BCS	+.4
002534	000000		HLT	;ERROR! CARRY CHANGED
002536	102001		BVC	+.4
002540	000000		HLT	;ERROR! V FAILED TO CLEAR
002542	020027	177767	CMP	DEST,#177767 ;DEST=177767?
002544	001401		BEQ	+.4
002550	000000		HLT	;-1 XOR 10 FAILED
	000034		Y=Y+1	
	000020		N=N+N	
	010701		SCOPE	
002554	012702	177777	MOV	#-1,SOURCE ;MOVE SOURCE OPERAND TO SOURCE
002556	012700	000020	MOV	#20,DEST ;MOVE DESTINATION OPERAND TO DESTINATION
002562	000257		CCC	
002566	074200		XOR	SOURCE,DEST ;XOR SOURCE AND DESTINATION
002570	103001		BCC	+.4
002572	000000		HLT	;ERROR! CARRY CHANGED
002574	102001		BVC	+.4
002576				

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002600	000000		HLT		:ERROR! V FAILED TO CLEAR
002602	020027	177757	CMP	DEST,#177757	:DEST=177757?
002606	001401		BEQ	+.4	
002610	000000		HLT		;-1 XOR 20 FAILED
	000035		Y=Y+1		
	000040		N=N+N		
002612	010701		SCOPE		
002614	012702	177777	MOV	#-1,SOURCE	:MOVE SOURCE OPERAND TO SOURCE
002620	012700	000040	MOV	#40,DEST	:MOVE DESTINATION OPERAND TO DESTINATION
002624	000277		SCC		
002626	074200		XOR	SOURCE,DEST	:XOR SOURCE AND DESTINATION
002630	103401		BCS	+.4	
002632	000000		HLT		:ERROR! CARRY CHANGED
002634	102001		BVC	+.4	
002636	000000		HLT		:ERROR! V FAILED TO CLEAR
002640	020027	177737	CMP	DEST,#177737	:DEST=177737?
002644	001401		BEQ	+.4	
002646	000000		HLT		;-1 XOR 40 FAILED
	000036		Y=Y+1		
	000100		N=N+N		
002650	010701		SCOPE		
002652	012702	177777	MOV	#-1,SOURCE	:MOVE SOURCE OPERAND TO SOURCE
002656	012700	000100	MOV	#100,DEST	:MOVE DESTINATION OPERAND TO DESTINATION
002662	000257		CCC		
002664	074200		XOR	SOURCE,DEST	:XOR SOURCE AND DESTINATION
002666	103001		BCC	+.4	
002670	000000		HLT		:ERROR! CARRY CHANGED
002672	102001		BVC	+.4	
002674	000000		HLT		:ERROR! V FAILED TO CLEAR
002676	020027	177677	CMP	DEST,#177677	:DEST=177677?
002702	001401		BEQ	+.4	
002704	000000		HLT		;-1 XOR 100 FAILED
	000037		Y=Y+1		
	000200		N=N+N		
002706	010701		SCOPE		
002710	012702	177777	MOV	#-1,SOURCE	:MOVE SOURCE OPERAND TO SOURCE
002714	012700	000200	MOV	#200,DEST	:MOVE DESTINATION OPERAND TO DESTINATION
002720	000277		SCC		
002722	074200		XOR	SOURCE,DEST	:XOR SOURCE AND DESTINATION
002724	103401		BCS	+.4	
002726	000000		HLT		:ERROR! CARRY CHANGED
002730	102001		BVC	+.4	
002732	000000		HLT		:ERROR! V FAILED TO CLEAR
002734	020027	177577	CMP	DEST,#177577	:DEST=177577?
002740	001401		BEQ	+.4	
002742	000000		HLT		;-1 XOR 200 FAILED
	000040		Y=Y+1		
	000400		N=N+N		
002744	010701		SCOPE		
002746	012702	177777	MOV	#-1,SOURCE	:MOVE SOURCE OPERAND TO SOURCE
002752	012700	000400	MOV	#400,DEST	:MOVE DESTINATION OPERAND TO DESTINATION
002756	000257		CCC		

002760	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
002762	103001		BCC	.+4	;ERROR! CARRY CHANGED
002764	000000		HLT		
002766	102001		BVC	.+4	;ERROR! V FAILED TO CLEAR
002770	000000		HLT		
002772	020027	177377	CMP	DEST,#177377	;DEST=177377?
002774	001401		BEQ	.+4	
003000	000000		HLT		; -1 XOR 400 FAILED
	000041		Y=Y+1		
	001000		N=N+N		
003002	010701		SCOPE		
003004	012702	177777	MOV	#-1,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
003010	012700	001000	MOV	#1000,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
003014	000277		SCC		
003016	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
003020	103401		BCC	.+4	;ERROR! CARRY CHANGED
003022	000000		HLT		
003024	102001		BVC	.+4	;ERROR! V FAILED TO CLEAR
003026	000000		HLT		
003030	020027	176777	CMP	DEST,#176777	;DEST=176777?
003034	001401		BEQ	.+4	
003036	000000		HLT		; -1 XOR 1000 FAILED
	000042		Y=Y+1		
	002000		N=N+N		
003040	010701		SCOPE		
003042	012702	177777	MOV	#-1,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
003046	012700	002000	MOV	#2000,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
003052	000257		CCC		
003054	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
003056	103001		BCC	.+4	;ERROR! CARRY CHANGED
003060	000000		HLT		
003062	102001		BVC	.+4	;ERROR! V FAILED TO CLEAR
003064	000000		HLT		
003066	020027	175777	CMP	DEST,#175777	;DEST=175777?
003072	001401		BEQ	.+4	
003074	000000		HLT		; -1 XOR 2000 FAILED
	000043		Y=Y+1		
	004000		N=N+N		
003076	010701		SCOPE		
003100	012702	177777	MOV	#-1,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
003104	012700	004000	MOV	#4000,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
003110	000277		SCC		
003112	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
003114	103401		BCC	.+4	;ERROR! CARRY CHANGED
003116	000000		HLT		
003120	102001		BVC	.+4	;ERROR! V FAILED TO CLEAR
003122	000000		HLT		
003124	020027	173777	CMP	DEST,#173777	;DEST=173777?
003130	001401		BEQ	.+4	
003132	000000		HLT		; -1 XOR 4000 FAILED
	000044		Y=Y+1		
	010000		N=N+N		

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003134	010701		SCOPE		
003136	012702	177777	MOV	#-1,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
003142	012700	010000	MOV	#10000,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
003146	000257		CCC		
003150	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
003152	103001		BCC	+.4	
003154	000000		HLT		;ERROR! CARRY CHANGED
003156	102001		BVC	+.4	
003160	000000		HLT		;ERROR! V FAILED TO CLEAR
003162	020027	167777	CMP	DEST,#167777	;DEST=167777?
003166	001401		BEQ	+.4	
003170	000000		HLT		;-1 XOR 10000 FAILED
	000045		Y=Y+1		
	020000		N=N+N		
003172	010701		SCOPE		
003174	012702	177777	MOV	#-1,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
003200	012700	020000	MOV	#20000,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
003204	000277		SCC		
003206	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
003210	103401		BCS	+.4	
003212	000000		HLT		;ERROR! CARRY CHANGED
003214	102001		BVC	+.4	
003216	000000		HLT		;ERROR! V FAILED TO CLEAR
003220	020027	157777	CMP	DEST,#157777	;DEST=157777?
003224	001401		BEQ	+.4	
003226	000000		HLT		;-1 XOR 20000 FAILED
	000046		Y=Y+1		
	040000		N=N+N		
003230	010701		SCOPE		
003232	012702	177777	MOV	#-1,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
003236	012700	040000	MOV	#40000,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
003242	000257		CCC		
003244	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
003246	103001		BCC	+.4	
003250	000000		HLT		;ERROR! CARRY CHANGED
003252	102001		BVC	+.4	
003254	000000		HLT		;ERROR! V FAILED TO CLEAR
003256	020027	137777	CMP	DEST,#137777	;DEST=137777?
003262	001401		BEQ	+.4	
003264	000000		HLT		;-1 XOR 40000 FAILED
	000047		Y=Y+1		
	100000		N=N+N		
003266	010701		SCOPE		
003270	012702	177777	MOV	#-1,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
003274	012700	100000	MOV	#100000,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
003300	000277		SCC		
003302	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
003304	103401		BCS	+.4	
003306	000000		HLT		;ERROR! CARRY CHANGED
003310	102001		BVC	+.4	
003312	000000		HLT		;ERROR! V FAILED TO CLEAR
003314	020027	077777	CMP	DEST,#77777	;DEST=77777?
003320	001401		BEQ	+.4	

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003322 000000

HLT

;-1 XOR 100000 FAILED

000050
000000

Y=Y+1
N=N+N

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	000001		N=1		
003324	010701			SCOPE	
003326	012702	000000		MOV	#0,SOURCE ;MOVE SOURCE OPERAND TO SOURCE
003332	012700	000001		MOV	#1,DEST ;MOVE DESTINATION OPERAND TO DESTINATION
003336	000257			CCC	
003340	074200			XOR	SOURCE,DEST ;XOR SOURCE AND DESTINATION
003342	103001			BCC	+.4
003344	000000			HLT	;ERROR! CARRY CHANGED
003346	102001			BVC	+.4
003350	000000			HLT	;ERROR! V FAILED TO CLEAR
003352	020027	000001		CMP	DEST,#1 ;DEST=1?
003356	001401			BEQ	+.4
003360	000000			HLT	;0 XOR 1 FAILED
	000051			Y=Y+1	
	000002			N=N+N	
003362	010701			SCOPE	
003364	012702	000000		MOV	#0,SOURCE ;MOVE SOURCE OPERAND TO SOURCE
003370	012700	000002		MOV	#2,DEST ;MOVE DESTINATION OPERAND TO DESTINATION
003374	000277			SCC	
003376	074200			XOR	SOURCE,DEST ;XOR SOURCE AND DESTINATION
003400	103401			BCS	+.4
003402	000000			HLT	;ERROR! CARRY CHANGED
003404	102001			BVC	+.4
003406	000000			HLT	;ERROR! V FAILED TO CLEAR
003410	020027	000002		CMP	DEST,#2 ;DEST=2?
003414	001401			BEQ	+.4
003416	000000			HLT	;0 XOR 2 FAILED
	000052			Y=Y+1	
	000004			N=N+N	
003420	010701			SCOPE	
003422	012702	000000		MOV	#0,SOURCE ;MOVE SOURCE OPERAND TO SOURCE
003426	012700	000004		MOV	#4,DEST ;MOVE DESTINATION OPERAND TO DESTINATION
003432	000257			CCC	
003434	074200			XOR	SOURCE,DEST ;XOR SOURCE AND DESTINATION
003436	103001			BCC	+.4
003440	000000			HLT	;ERROR! CARRY CHANGED
003442	102001			BVC	+.4
003444	000000			HLT	;ERROR! V FAILED TO CLEAR
003446	020027	000004		CMP	DEST,#4 ;DEST=4?
003452	001401			BEQ	+.4
003454	000000			HLT	;0 XOR 4 FAILED
	000053			Y=Y+1	
	000010			N=N+N	
003456	010701			SCOPE	
003460	012702	000000		MOV	#0,SOURCE ;MOVE SOURCE OPERAND TO SOURCE
003464	012700	000010		MOV	#10,DEST ;MOVE DESTINATION OPERAND TO DESTINATION
003470	000277			SCC	
003472	074200			XOR	SOURCE,DEST ;XOR SOURCE AND DESTINATION
003474	103401			BCS	+.4
003476	000000			HLT	;ERROR! CARRY CHANGED
003500	102001			BVC	+.4
003502	000000			HLT	;ERROR! V FAILED TO CLEAR

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003504	020027	000010	CMP	DEST,#10	:DEST=10?
003510	001401		BEQ	+.4	
003512	000000		HLT		:0 XOR 10 FAILED
	000054		Y=Y+1		
	000020		N=N+N		
	010701		SCOPE		
003514	012702	000000	MOV	#0,SOURCE	:MOVE SOURCE OPERAND TO SOURCE
003522	012700	000020	MOV	#20,DEST	:MOVE DESTINATION OPERAND TO DESTINATION
003526	000257		CCC		
003530	074200		XOR	SOURCE,DEST	:XOR SOURCE AND DESTINATION
003532	103001		BCC	+.4	
003534	000000		HLT		:ERROR! CARRY CHANGED
003536	102001		BVC	+.4	
003540	000000		HLT		:ERROR! V FAILED TO CLEAR
003542	020027	000020	CMP	DEST,#20	:DEST=20?
003546	001401		BEQ	+.4	
003550	000000		HLT		:0 XOR 20 FAILED
	000055		Y=Y+1		
	000040		N=N+N		
	010701		SCOPE		
003552	012702	000000	MOV	#0,SOURCE	:MOVE SOURCE OPERAND TO SOURCE
003560	012700	000040	MOV	#40,DEST	:MOVE DESTINATION OPERAND TO DESTINATION
003564	000277		SCC		
003566	074200		XOR	SOURCE,DEST	:XOR SOURCE AND DESTINATION
003570	103401		BCS	+.4	
003572	000000		HLT		:ERROR! CARRY CHANGED
003574	102001		BVC	+.4	
003576	000000		HLT		:ERROR! V FAILED TO CLEAR
003600	020027	000040	CMP	DEST,#40	:DEST=40?
003604	001401		BEQ	+.4	
003606	000000		HLT		:0 XOR 40 FAILED
	000056		Y=Y+1		
	000100		N=N+N		
	010701		SCOPE		
003610	012702	000000	MOV	#0,SOURCE	:MOVE SOURCE OPERAND TO SOURCE
003616	012700	000100	MOV	#100,DEST	:MOVE DESTINATION OPERAND TO DESTINATION
003622	000257		CCC		
003624	074200		XOR	SOURCE,DEST	:XOR SOURCE AND DESTINATION
003626	103001		BCC	+.4	
003630	000000		HLT		:ERROR! CARRY CHANGED
003632	102001		BVC	+.4	
003634	000000		HLT		:ERROR! V FAILED TO CLEAR
003636	020027	000100	CMP	DEST,#100	:DEST=100?
003642	001401		BEQ	+.4	
003644	000000		HLT		:0 XOR 100 FAILED
	000057		Y=Y+1		
	000200		N=N+N		
	010701		SCOPE		
003646	012702	000000	MOV	#0,SOURCE	:MOVE SOURCE OPERAND TO SOURCE
003654	012700	000200	MOV	#200,DEST	:MOVE DESTINATION OPERAND TO DESTINATION
003660	000277		SCC		
003662	074200		XOR	SOURCE,DEST	:XOR SOURCE AND DESTINATION

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003664	103401		BCS	+.4	
003666	000000		HLT		;ERROR! CARRY CHANGED
003670	102001		BVC	+.4	
003672	000000		HLT		;ERROR! V FAILED TO CLEAR
003674	020027	000200	CMP	DEST,#200	;DEST=200?
003700	001401		BEQ	+.4	
003702	000000		HLT		;0 XOR 200 FAILED
	000060		Y=Y+1		
	000400		N=N+N		
003704	010701		SCOPE		
003706	012702	000000	MOV	#0,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
003712	012700	000400	MOV	#400,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
003716	000257		CCC		
003720	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
003722	103001		BCC	+.4	
003724	000000		HLT		;ERROR! CARRY CHANGED
003726	102001		BVC	+.4	
003730	000000		HLT		;ERROR! V FAILED TO CLEAR
003732	020027	000400	CMP	DEST,#400	;DEST=400?
003736	001401		BEQ	+.4	
003740	000000		HLT		;0 XOR 400 FAILED
	000061		Y=Y+1		
	001000		N=N+N		
003742	010701		SCOPE		
003744	012702	000000	MOV	#0,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
003750	012700	001000	MOV	#1000,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
003754	000277		SCC		
003756	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
003760	103401		BCS	+.4	
003762	000000		HLT		;ERROR! CARRY CHANGED
003764	102001		BVC	+.4	
003766	000000		HLT		;ERROR! V FAILED TO CLEAR
003770	020027	001000	CMP	DEST,#1000	;DEST=1000?
003774	001401		BEQ	+.4	
003776	000000		HLT		;0 XOR 1000 FAILED
	000062		Y=Y+1		
	002000		N=N+N		
004000	010701		SCOPE		
004002	012702	000000	MOV	#0,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
004006	012700	002000	MOV	#2000,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
004012	000257		CCC		
004014	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
004016	103001		BCC	+.4	
004020	000000		HLT		;ERROR! CARRY CHANGED
004022	102001		BVC	+.4	
004024	000000		HLT		;ERROR! V FAILED TO CLEAR
004026	020027	002000	CMP	DEST,#2000	;DEST=2000?
004032	001401		BEQ	+.4	
004034	000000		HLT		;0 XOR 2000 FAILED
	000063		Y=Y+1		
	004000		N=N+N		
004036	010701		SCOPE		

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004040	012702	000000	MOV	#0,SOURCE	:MOVE SOURCE OPERAND TO SOURCE
004044	012700	004000	MOV	#4000,DEST	:MOVE DESTINATION OPERAND TO DESTINATION
004050	000277		SCC		
004052	074200		XOR	SOURCE,DEST	:XOR SOURCE AND DESTINATION
004054	103401		BCS	+.4	
004056	000000		HLT		:ERROR! CARRY CHANGED
004060	102001		BVC	+.4	
004062	000000		HLT		:ERROR! V FAILED TO CLEAR
004064	020027	004000	CMP	DEST,#4000	:DEST=4000?
004070	001401		BEQ	+.4	
004072	000000		HLT		:0 XOR 4000 FAILED
	000064		Y=Y+1		
	010000		N=N+N		
	010701		SCOPE		
004074	010701		MOV	#0,SOURCE	:MOVE SOURCE OPERAND TO SOURCE
004076	012702	000000	MOV	#10000,DEST	:MOVE DESTINATION OPERAND TO DESTINATION
004102	012700	010000	CCC		
004106	000257		XOR	SOURCE,DEST	:XOR SOURCE AND DESTINATION
004110	074200		BCC	+.4	
004112	103001		HLT		:ERROR! CARRY CHANGED
004114	000000		BVC	+.4	
004116	102001		HLT		:ERROR! V FAILED TO CLEAR
004120	000000		CMP	DEST,#10000	:DEST=10000?
004122	020027	010000	BEQ	+.4	
004126	001401		HLT		:0 XOR 10000 FAILED
004130	000000				
	000065		Y=Y+1		
	020000		N=N+N		
	010701		SCOPE		
004132	010701		MOV	#0,SOURCE	:MOVE SOURCE OPERAND TO SOURCE
004134	012702	000000	MOV	#20000,DEST	:MOVE DESTINATION OPERAND TO DESTINATION
004140	012700	020000	SCC		
004144	000277		XOR	SOURCE,DEST	:XOR SOURCE AND DESTINATION
004146	074200		BCS	+.4	
004150	103401		HLT		:ERROR! CARRY CHANGED
004152	000000		BVC	+.4	
004154	102001		HLT		:ERROR! V FAILED TO CLEAR
004156	000000		CMP	DEST,#20000	:DEST=20000?
004160	020027	020000	BEQ	+.4	
004164	001401		HLT		:0 XOR 20000 FAILED
004166	000000				
	000066		Y=Y+1		
	040000		N=N+N		
	010701		SCOPE		
004170	010701		MOV	#0,SOURCE	:MOVE SOURCE OPERAND TO SOURCE
004172	012702	000000	MOV	#40000,DEST	:MOVE DESTINATION OPERAND TO DESTINATION
004176	012700	040000	CCC		
004202	000257		XOR	SOURCE,DEST	:XOR SOURCE AND DESTINATION
004204	074200		BCC	+.4	
004206	103001		HLT		:ERROR! CARRY CHANGED
004210	000000		BVC	+.4	
004212	102001		HLT		:ERROR! V FAILED TO CLEAR
004214	000000		CMP	DEST,#40000	:DEST=40000?
004216	020027	040000	BEQ	+.4	
004222	001401		HLT		:0 XOR 40000 FAILED
004224	000000				

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	000067		Y=Y+1		
	100000		N=N+N		
004226	010701		SCOPE		
004230	012702	000000	MOV	#0, SOURCE	;MOVE SOURCE OPERAND TO SOURCE
004234	012700	100000	MOV	#100000, DEST	;MOVE DESTINATION OPERAND TO DESTINATION
004240	000277		SCC		
004242	074200		XOR	SOURCE, DEST	;XOR SOURCE AND DESTINATION
004244	103401		BCS	.+4	
004246	000000		HLT		;ERROR! CARRY CHANGED
004250	102001		BVC	.+4	
004252	000000		HLT		;ERROR! V FAILED TO CLEAR
004254	020027	100000	CMP	DEST, #100000	;DEST=100000?
004260	001401		BEQ	.+4	
004262	000000		HLT		;0 XOR 100000 FAILED
	000070		Y=Y+1		
	000000		N=N+N		
	000001				
		N=1			
004264	010701		SCOPE		
004266	012702	000001	MOV	#1, SOURCE	;MOVE SOURCE OPERAND TO SOURCE
004272	012700	177776	MOV	#177776, DEST	;MOVE DESTINATION OPERAND TO DESTINATION
004276	000257		CCC		
004300	074200		XOR	SOURCE, DEST	;XOR SOURCE AND DESTINATION
004302	103001		BCC	.+4	
004304	000000		HLT		;ERROR! CARRY CHANGED
004306	102001		BVC	.+4	
004310	000000		HLT		;ERROR! V FAILED TO CLEAR
004312	020027	177777	CMP	DEST, #177777	;DEST=177777?
004316	001401		BEQ	.+4	
004320	000000		HLT		;1 XOR 177776 FAILED
	000071		Y=Y+1		
	000002		N=N+N		
004322	010701		SCOPE		
004324	012702	000002	MOV	#2, SOURCE	;MOVE SOURCE OPERAND TO SOURCE
004330	012700	177775	MOV	#177775, DEST	;MOVE DESTINATION OPERAND TO DESTINATION
004334	000277		SCC		
004336	074200		XOR	SOURCE, DEST	;XOR SOURCE AND DESTINATION
004340	103401		BCS	.+4	
004342	000000		HLT		;ERROR! CARRY CHANGED
004344	102001		BVC	.+4	
004346	000000		HLT		;ERROR! V FAILED TO CLEAR
004350	020027	177777	CMP	DEST, #177777	;DEST=177777?
004354	001401		BEQ	.+4	
004356	000000		HLT		;2 XOR 177775 FAILED
	000072		Y=Y+1		
	000004		N=N+N		
004360	010701		SCOPE		
004362	012702	000004	MOV	#4, SOURCE	;MOVE SOURCE OPERAND TO SOURCE
004366	012700	177773	MOV	#177773, DEST	;MOVE DESTINATION OPERAND TO DESTINATION
004372	000257		CCC		
004374	074200		XOR	SOURCE, DEST	;XOR SOURCE AND DESTINATION
004376	103001		BCC	.+4	

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004400	000000		HLT		:ERROR! CARRY CHANGED
004402	102001		BVC	.+4	
004404	000000		HLT		:ERROR! V FAILED TO CLEAR
004406	020027	177777	CMP	DEST,#177777	:DEST=177777?
004412	001401		BEQ	.+4	
004414	000000		HLT		:4 XOR 177773 FAILED
	000073		Y=Y+1		
	000010		N=N+N		
	010701		SCOPE		
004416	012702	000010	MOV	#10,SOURCE	:MOVE SOURCE OPERAND TO SOURCE
004424	012700	177767	MOV	#177767,DEST	:MOVE DESTINATION OPERAND TO DESTINATION
004430	000277		SCC		
004432	074200		XOR	SOURCE,DEST	:XOR SOURCE AND DESTINATION
004434	103401		BCS	.+4	
004436	000000		HLT		:ERROR! CARRY CHANGED
004440	102001		BVC	.+4	
004442	000000		HLT		:ERROR! V FAILED TO CLEAR
004444	020027	177777	CMP	DEST,#177777	:DEST=177777?
004450	001401		BEQ	.+4	
004452	000000		HLT		:10 XOR 177767 FAILED
	000074		Y=Y+1		
	000020		N=N+N		
	010701		SCOPE		
004454	012702	000020	MOV	#20,SOURCE	:MOVE SOURCE OPERAND TO SOURCE
004462	012700	177757	MOV	#177757,DEST	:MOVE DESTINATION OPERAND TO DESTINATION
004466	000257		CCC		
004470	074200		XOR	SOURCE,DEST	:XOR SOURCE AND DESTINATION
004472	103001		BCC	.+4	
004474	000000		HLT		:ERROR! CARRY CHANGED
004476	102001		BVC	.+4	
004500	000000		HLT		:ERROR! V FAILED TO CLEAR
004502	020027	177777	CMP	DEST,#177777	:DEST=177777?
004506	001401		BEQ	.+4	
004510	000000		HLT		:20 XOR 177757 FAILED
	000075		Y=Y+1		
	000040		N=N+N		
	010701		SCOPE		
004512	012702	000040	MOV	#40,SOURCE	:MOVE SOURCE OPERAND TO SOURCE
004520	012700	177737	MOV	#177737,DEST	:MOVE DESTINATION OPERAND TO DESTINATION
004524	000277		SCC		
004526	074200		XOR	SOURCE,DEST	:XOR SOURCE AND DESTINATION
004530	103401		BCS	.+4	
004532	000000		HLT		:ERROR! CARRY CHANGED
004534	102001		BVC	.+4	
004536	000000		HLT		:ERROR! V FAILED TO CLEAR
004540	020027	177777	CMP	DEST,#177777	:DEST=177777?
004544	001401		BEQ	.+4	
004546	000000		HLT		:40 XOR 177737 FAILED
	000076		Y=Y+1		
	000100		N=N+N		
	010701		SCOPE		
004550	012702	000100	MOV	#100,SOURCE	:MOVE SOURCE OPERAND TO SOURCE

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004556	012700	177677	MOV	#177677,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
004562	000257		CCC		
004564	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
004566	103001		BCC	+.4	
004570	000000		HLT		;ERROR! CARRY CHANGED
004572	102001		BVC	+.4	
004574	000000		HLT		;ERROR! V FAILED TO CLEAR
004576	020027	177777	CMP	DEST,#177777	;DEST=177777?
004602	001401		BEQ	+.4	
004604	000000		HLT		;100 XOR 177677 FAILED
	000077		Y=Y+1		
	000200		N=N+N		
004606	010701		SCOPE		
004610	012702	000200	MOV	#200,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
004614	012700	177577	MOV	#177577,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
004620	000277		SCC		
004622	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
004624	103401		BCS	+.4	
004626	000000		HLT		;ERROR! CARRY CHANGED
004630	102001		BVC	+.4	
004632	000000		HLT		;ERROR! V FAILED TO CLEAR
004634	020027	177777	CMP	DEST,#177777	;DEST=177777?
004640	001401		BEQ	+.4	
004642	000000		HLT		;200 XOR 177577 FAILED
	000100		Y=Y+1		
	000400		N=N+N		
004644	010701		SCOPE		
004646	012702	000400	MOV	#400,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
004652	012700	177377	MOV	#177377,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
004656	000257		CCC		
004660	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
004662	103001		BCC	+.4	
004664	000000		HLT		;ERROR! CARRY CHANGED
004666	102001		BVC	+.4	
004670	000000		HLT		;ERROR! V FAILED TO CLEAR
004672	020027	177777	CMP	DEST,#177777	;DEST=177777?
004676	001401		BEQ	+.4	
004700	000000		HLT		;400 XOR 177377 FAILED
	000101		Y=Y+1		
	001000		N=N+N		
004702	010701		SCOPE		
004704	012702	001000	MOV	#1000,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
004710	012700	176777	MOV	#176777,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
004714	000277		SCC		
004716	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
004720	103401		BCS	+.4	
004722	000000		HLT		;ERROR! CARRY CHANGED
004724	102001		BVC	+.4	
004726	000000		HLT		;ERROR! V FAILED TO CLEAR
004730	020027	177777	CMP	DEST,#177777	;DEST=177777?
004734	001401		BEQ	+.4	
004736	000000		HLT		;1000 XOR 176777 FAILED

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	000102		Y=Y+1		
	002000		N=N+N		
004740	010701		SCOPE		
004742	012702	002000	MOV	#2000,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
004746	012700	175777	MOV	#175777,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
004752	000257		CCC		
004754	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
004756	103001		BCC	+.4	
004760	000000		HLT		;ERROR! CARRY CHANGED
004762	102001		BVC	+.4	
004764	000000		HLT		;ERROR! V FAILED TO CLEAR
004766	020027	177777	CMP	DEST,#177777	;DEST=177777?
004772	001401		BEQ	+.4	
004774	000000		HLT		;2000 XOR 175777 FAILED
	000103		Y=Y+1		
	004000		N=N+N		
004776	010701		SCOPE		
005000	012702	004000	MOV	#4000,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
005004	012700	173777	MOV	#173777,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
005010	000277		SCC		
005012	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
005014	103401		BCS	+.4	
005016	000000		HLT		;ERROR! CARRY CHANGED
005020	102001		BVC	+.4	
005022	000000		HLT		;ERROR! V FAILED TO CLEAR
005024	020027	177777	CMP	DEST,#177777	;DEST=177777?
005030	001401		BEQ	+.4	
005032	000000		HLT		;4000 XOR 173777 FAILED
	000104		Y=Y+1		
	010000		N=N+N		
005034	010701		SCOPE		
005036	012702	010000	MOV	#10000,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
005042	012700	167777	MOV	#167777,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
005046	000257		CCC		
005050	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
005052	103001		BCC	+.4	
005054	000000		HLT		;ERROR! CARRY CHANGED
005056	102001		BVC	+.4	
005060	000000		HLT		;ERROR! V FAILED TO CLEAR
005062	020027	177777	CMP	DEST,#177777	;DEST=177777?
005066	001401		BEQ	+.4	
005070	000000		HLT		;10000 XOR 167777 FAILED
	000105		Y=Y+1		
	020000		N=N+N		
005072	010701		SCOPE		
005074	012702	020000	MOV	#20000,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
005100	012700	157777	MOV	#157777,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
005104	000277		SCC		
005106	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
005110	103401		BCS	+.4	
005112	000000		HLT		;ERROR! CARRY CHANGED
005114	102001		BVC	+.4	
005116	000000		HLT		;ERROR! V FAILED TO CLEAR

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005120	020027	177777	CMP	DEST,#177777	;DEST=177777?
005124	001401		BEQ	+.4	
005126	000000		HLT		;20000 XOR 157777 FAILED
	000106		Y=Y+1		
	040000		N=N+N		
005130	010701		SCOPE		
005132	012702	040000	MOV	#40000,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
005136	012700	137777	MOV	#137777,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
005142	000257		CCC		
005144	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
005146	103001		BCC	+.4	
005150	000000		HLT		;ERROR! CARRY CHANGED
005152	102001		BVC	+.4	
005154	000000		HLT		;ERROR! V FAILED TO CLEAR
005156	020027	177777	CMP	DEST,#177777	;DEST=177777?
005162	001401		BEQ	+.4	
005164	000000		HLT		;40000 XOR 137777 FAILED
	000107		Y=Y+1		
	100000		N=N+N		
005166	010701		SCOPE		
005170	012702	100000	MOV	#100000,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
005174	012700	077777	MOV	#77777,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
005200	000277		SCC		
005202	074200		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
005204	103401		BCS	+.4	
005206	000000		HLT		;ERROR! CARRY CHANGED
005210	102001		BVC	+.4	
005212	000000		HLT		;ERROR! V FAILED TO CLEAR
005214	020027	177777	CMP	DEST,#177777	;DEST=177777?
005220	001401		BEQ	+.4	
005222	000000		HLT		;100000 XOR 77777 FAILED
	000110		Y=Y+1		
	000000		N=N+N		
	000000		SOURCE=X0		
	000002		DEST=X2		
	000002		RSLT=X2		
005224	010701		SCOPE		
005226	012700	031463	MOV	#031463,SOURCE	;MOVE SOURCE OPERAND TO SOURCE
005232	012702	146314	MOV	#146314,DEST	;MOVE DESTINATION OPERAND TO DESTINATION
005236	000257		CCC		
005240	074002		XOR	SOURCE,DEST	;XOR SOURCE AND DESTINATION
005242	103001		BCC	+.4	
005244	000000		HLT		;ERROR! CARRY CHANGED
005246	102001		BVC	+.4	
005250	000000		HLT		;ERROR! V FAILED TO CLEAR
005252	020227	177777	CMP	DEST,#-1	;DEST=-1?
005256	001401		BEQ	+.4	
005260	000000		HLT		;031463 XOR 146314 FAILED
	000111		Y=Y+1		

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000002          SOURCE=%2
000000          DEST=%0
000002          RSLT=%2

005262 010701          SCOPE
005264 012702 146314  MOV      #146314,SOURCE ;MOVE SOURCE OPERAND TO SOURCE
005270 012700 031463  MOV      #031463,DEST  ;MOVE DESTINATION OPERAND TO DESTINATION
005274 000277          SCC
005276 074200          XOR      SOURCE,DEST  ;XOR SOURCE AND DESTINATION
005300 103401          BCS      .+4
005302 000000          HLT
005304 102001          BVC      .+4
005306 000000          HLT ;ERROR! CARRY CHANGED
005310 020027 177777  CMP      DEST,#-1    ;ERROR! V FAILED TO CLEAR
005314 001401          BEQ      .+4 ;DEST=-1?
005316 000000          HLT ;146314 XOR 031463 FAILED

000112          Y=Y+1
000003          SOURCE=%3

005320 010701          SCOPE
005322 012703 016161  MOV      #016161,SOURCE ;MOVE SOURCE OPERAND TO SOURCE
005326 012700 161616  MOV      #161616,DEST  ;MOVE DESTINATION OPERAND TO DESTINATION
005332 000257          CCC
005334 074300          XOR      SOURCE,DEST  ;XOR SOURCE AND DESTINATION
005336 103001          BCC      .+4
005340 000000          HLT ;ERROR! CARRY CHANGED
005342 102001          BVC      .+4
005344 000000          HLT ;ERROR! V FAILED TO CLEAR
005346 020027 177777  CMP      DEST,#-1    ;DEST=-1?
005352 001401          BEQ      .+4
005354 000000          HLT ;016161 XOR 161616 FAILED

000113          Y=Y+1
000005          DEST=%5

005356 010701          SCOPE
005360 012703 161616  MOV      #161616,SOURCE ;MOVE SOURCE OPERAND TO SOURCE
005364 012705 016161  MOV      #016161,DEST  ;MOVE DESTINATION OPERAND TO DESTINATION
005370 000277          SCC
005372 074305          XOR      SOURCE,DEST  ;XOR SOURCE AND DESTINATION
005374 103401          BCS      .+4
005376 000000          HLT ;ERROR! CARRY CHANGED
005400 102001          BVC      .+4
005402 000000          HLT ;ERROR! V FAILED TO CLEAR
005404 020527 177777  CMP      DEST,#-1    ;DEST=-1?
005410 001401          BEQ      .+4
005412 000000          HLT ;161616 XOR 016161 FAILED

000114          Y=Y+1
000000          DEST=%0

;TEST THAT CONDITION CODES ARE OPERATED ON CORRECTLY
;CARRY REMAINS UNCHANGED (CARRY SET)

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005414 010701          SCOPE
005416 012702 177777  MOV      #-1,%2
005422 012700 177777  MOV      #-1,%0
005426 000261          SEC          ;SET CARRY
005430 074200          XOR      %2,%0  ;XOR
005432 103401          BCS      .+4    ;BRANCH IF CARRY IS SET
005434 000000          HLT

;TEST 'N'
005435 010701          SCOPE
005440 012700 100000  MOV      #100000,%0
005444 005002          CLR      %2
005446 074200          XOR      %2,%0
005450 100401          BMI      .+4
005452 000000          HLT          ;ERROR! 'N' FAILED TO SET

SCOPE
005454 010701          SCOPE
005456 012702 100000  MOV      #100000,%2
005462 012700 177777  MOV      #-1,%0
005466 000250          CLN
005470 074200          XOR      %2,%0
005472 100001          BPL      .+4
005474 000000          HLT          ;ERROR! 'N' FAILED TO CLEAR

;CARRY REMAINS UNCHANGED (CARRY CLEAR)
005476 010701          SCOPE
005500 012702 177777  MOV      #-1,%2
005504 012700 177777  MOV      #-1,%0
005510 000241          CLC          ;CLEAR CARRY
005512 074200          XOR      %2,%0  ;XOR
005514 103001          BCC      .+4    ;BRANCH IF CARRY IS CLEAR
005516 000000          HLT

N=1
;TEST THAT Z BIT IS CLEAR IF RESULT IS NOT ZERO
005520 010701          SCOPE
005522 012700 000001  MOV      #1,DEST
005526 000264          SEZ          ;SET Z BIT
005530 074300          XOR      SOURCE,DEST ;XOR
005532 001001          BNE      .+4
005534 000000          HLT          ;0 XOR 1 FAILED TO CLEAR Z

N=N+N
005536 010701          SCOPE
005540 012700 000002  MOV      #2,DEST
005544 000264          SEZ          ;SET Z BIT
005546 074300          XOR      SOURCE,DEST ;XOR
005550 001001          BNE      .+4
005552 000000          HLT          ;0 XOR 2 FAILED TO CLEAR Z

N=N+N
005554 010701          SCOPE
005556 012700 000004  MOV      #4,DEST
005562 000264          SEZ          ;SET Z BIT
005564 074300          XOR      SOURCE,DEST ;XOR
005566 001001          BNE      .+4

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005570	000000		HLT		:0 XOR 4 FAILED TO CLEAR Z
005572	000010		N=N+N		
005574	010701	000010	SCOPE		
005600	012700		MOV	#10,DEST	
005602	000264		SEZ		:SET Z BIT
005604	074300		XOR	SOURCE,DEST	:XOR
005606	001001		BNE	+.4	
005610	000000		HLT		:0 XOR 10 FAILED TO CLEAR Z
005610	000020		N=N+N		
005612	010701	000020	SCOPE		
005616	012700		MOV	#20,DEST	
005620	000264		SEZ		:SET Z BIT
005622	074300		XOR	SOURCE,DEST	:XOR
005624	001001		BNE	+.4	
005626	000000		HLT		:0 XOR 20 FAILED TO CLEAR Z
005626	000040		N=N+N		
005630	010701	000040	SCOPE		
005634	012700		MOV	#40,DEST	
005636	000264		SEZ		:SET Z BIT
005640	074300		XOR	SOURCE,DEST	:XOR
005642	001001		BNE	+.4	
005644	000000		HLT		:0 XOR 40 FAILED TO CLEAR Z
005644	000100		N=N+N		
005646	010701	000100	SCOPE		
005652	012700		MOV	#100,DEST	
005654	000264		SEZ		:SET Z BIT
005656	074300		XOR	SOURCE,DEST	:XOR
005660	001001		BNE	+.4	
005662	000000		HLT		:0 XOR 100 FAILED TO CLEAR Z
005662	000200		N=N+N		
005664	010701	000200	SCOPE		
005670	012700		MOV	#200,DEST	
005672	000264		SEZ		:SET Z BIT
005674	074300		XOR	SOURCE,DEST	:XOR
005676	001001		BNE	+.4	
005678	000000		HLT		:0 XOR 200 FAILED TO CLEAR Z
005700	000400		N=N+N		
005702	010701	000400	SCOPE		
005706	012700		MOV	#400,DEST	
005710	000264		SEZ		:SET Z BIT
005712	074300		XOR	SOURCE,DEST	:XOR
005714	001001		BNE	+.4	
005716	000000		HLT		:0 XOR 400 FAILED TO CLEAR Z
005716	001000		N=N+N		
005720	010701	001000	SCOPE		
005724	012700		MOV	#1000,DEST	
005726	000264		SEZ		:SET Z BIT
005730	074300		XOR	SOURCE,DEST	:XOR
005732	001001		BNE	+.4	

005732	000000		HLT		:0 XOR 1000 FAILED TO CLEAR Z
	002000		N=N+N		
005734	010701		SCOPE		
005736	012700	002000	MOV	#2000,DEST	
005742	000264		SEZ		:SET Z BIT
005744	074300		XOR	SOURCE,DEST	:XOR
005746	001001		BNE	+.4	
005750	000000		HLT		:0 XOR 2000 FAILED TO CLEAR Z
	004000		N=N+N		
005752	010701		SCOPE		
005754	012700	004000	MOV	#4000,DEST	
005760	000264		SEZ		:SET Z BIT
005762	074300		XOR	SOURCE,DEST	:XOR
005764	001001		BNE	+.4	
005766	000000		HLT		:0 XOR 4000 FAILED TO CLEAR Z
	010000		N=N+N		
005770	010701		SCOPE		
005772	012700	010000	MOV	#10000,DEST	
005776	000264		SEZ		:SET Z BIT
006000	074300		XOR	SOURCE,DEST	:XOR
006002	001001		BNE	+.4	
006004	000000		HLT		:0 XOR 10000 FAILED TO CLEAR Z
	020000		N=N+N		
006006	010701		SCOPE		
006010	012700	020000	MOV	#20000,DEST	
006014	000264		SEZ		:SET Z BIT
006016	074300		XOR	SOURCE,DEST	:XOR
006020	001001		BNE	+.4	
006022	000000		HLT		:0 XOR 20000 FAILED TO CLEAR Z
	040000		N=N+N		
006024	010701		SCOPE		
006026	012700	040000	MOV	#40000,DEST	
006032	000264		SEZ		:SET Z BIT
006034	074300		XOR	SOURCE,DEST	:XOR
006036	001001		BNE	+.4	
006040	000000		HLT		:0 XOR 40000 FAILED TO CLEAR Z
	100000		N=N+N		
006042	010701		SCOPE		
006044	012700	100000	MOV	#100000,DEST	
006050	000264		SEZ		:SET Z BIT
006052	074300		XOR	SOURCE,DEST	:XOR
006054	001001		BNE	+.4	
006056	000000		HLT		:0 XOR 100000 FAILED TO CLEAR Z
	000000		N=N+N		
	000001				
		N=1			
		:Z BIT IS SET IF RESULT=0			
006060	010701		SCOPE		
006062	012702	125252	MOV	#125252,%2	
006066	012700	125252	MOV	#125252,%0	

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006072 000244          CLZ          :CLEAR Z
006074 074200          XOR           %2,%0          :XOR
006076 001401          BEQ           .+4             :BRANCH IF Z IS SET
006100 000000          HLT

;V IS CLEARED
006102 010701          SCOPE
006104 012702 125252   MOV           #125252,%2
006110 012700 025252   MOV           #025252,%0
006114 000262          SEV
006116 074200          XOR           %2,%0          ;XOR
006120 102001          BVC           .+4             ;BRANCH IF V IS CLEARED
006122 000000          HLT

006124 010701          SCOPE
006126 012702 -2525   MOV           #052525,%2
006132 012700 125252   MOV           #125252,%0
006136 000262          SEV
006140 074200          XOR           %2,%0          ;XOR
006142 102001          BVC           .+4             ;BRANCH IF V IS CLEARED
006144 000000          HLT

006146 010701          SCOPE
006150 005002          CLR           %2
006152 005000          CLR           %0
006154 000262          SEV
006156 074200          XOR           %2,%0
006160 102001          BVC           .+4
006162 000000          HLT
006164 010701          SCOPE

006166 012702 177777   MOV           #-1,%2
006172 012700 177777   MOV           #-1,%0
006176 000262          SEV
006200 074200          XOR           %2,%0
006202 102003          BVC           .+10
006204 000000          HLT
;ERROR! V FAILED TO CLEAR

006210 000002          SOURCE=%2
006206 006206          DEST=.
006210 006210          .=. +2
IDEST: 0
;TEST DESTINATION MODE=67
006212 010701          SCOPE
006214 012702 177777   MOV           #-1,SOURCE      ;MOVE SOURCE OPERAND TO SOURCE
006220 012767 177777 177760   MOV           #-1,DEST        ;MOVE DESTINATION OPERAND TO DESTINATION
006226 000257          CCC
006230 074267 177752   XOR           SOURCE,DEST     ;XOR SOURCE AND DESTINATION
006234 103001          BCC           .+4
006236 000000          HLT
;ERROR! CARRY CHANGED
006240 102001          BVC           .+4
006242 000000          HLT
;ERROR! V FAILED TO CLEAR
006244 026727 177736 000000   CMP           DEST,#0 ;DEST=0?
006252 001401          BEQ           .+4
006254 000000          HLT
;-1 XOR -1 FAILED
    
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000115

Y=Y+1

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;TEST DESTINATION MODE=27
006256 010701          SCOPE
006260 012702 177777  MOV      #-1,%2
006264 012767 177777 000002  MOV      #-1,MODE27
006272 074227          XOR      %2,(7)+
006274 000000          MODE27: 0
006276 001401          BEQ      .+4
006300 000000          HLT

;TEST DESTINATION MODE 37
006302 010701          SCOPE
006304 012702 177777  MOV      #-1,%2
006310 012737 177777 006206  MOV      #-1,@#DEST
006316 074237 006206  XOR      %2,@#DEST
006322 001401          BEQ      .+4
006324 000000          HLT

;TEST DESTINATION MODE 77
006326 010701          SCOPE
006330 012767 006210 177650  MOV      #IDEST,DEST
006336 012702 177777  MOV      #-1,%2
006342 012777 177777 177636  MOV      #-1,@DEST
006350 074277 177632  XOR      %2,@DEST
006354 001401          BEQ      .+4
006356 000000          HLT

;TEST DESTINATION MODE 1
006360 010701          SCOPE
006362 012700 006756  MOV      #MODE1,%0
006366 012702 177777  MOV      #-1,%2
006372 012710 177776  MOV      #-2,(0)
006376 074210  XOR      %2,(0)
006400 022767 000001 000350  CMP      #1,MODE1      ;CHECK RESULT
006406 001401          BEQ      .+4
006410 000000          HLT      ;ERROR! INCORRECT RESULT
006412 022700 006756  CMP      #MODE1,%0      ;CHECK REGISTER
006416 001401          BEQ      .+4
006420 000000          HLT      ;ERROR! R0 CHANGED
006422 022702 177777  CMP      #-1,%2      ;CHECK REGISTER
006426 001401          BEQ      .+4
006430 000000          HLT      ;ERROR! R2 CHANGED

;TEST DESTINATION MODE 2
006432 010701          SCOPE
006434 012702 006756  MOV      #MODE1,%2
006440 012703 000002  MOV      #2,%3
006444 005012  CLR      (2)
006446 074322  XOR      %3,(2)+
006450 022767 000002 000300  CMP      #2,MODE1      ;CHECK RESULT
006456 001401          BEQ      .+4
006460 000000          HLT      ;ERROR! INCORRECT RESULT
006462 022702 006760  CMP      #MODE1+2,%2      ;TEST AUTO-INCREMENT
006466 001401          BEQ      .+4

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006470 000000                                HLT                                ;ERROR! AUTO-INCREMENT FAILED

;TEST DESTINATION MODE 3
006472 010701                                SCOPE
006474 012767 006760 000254                MOV #MODE3,MODE1
006502 012704 006756                        MOV #MODE1,%4
006506 012703 000003                        MOV #3,%3
006512 005067 000242                        CLR MODE3
006516 074334                                XOR %3,@(4)+
006520 022767 000003 000232                CMP #3,MODE3
006526 001401                                BEQ .+4
006530 000000                                HLT                                ;ERROR! INCORRECT RESULT
006532 022704 006760                        CMP #MODE1+2,%4                ;TEST AUTO-INCREMENT
006536 001401                                BEQ .+4
006540 000000                                HLT                                ;ERROR! ATO-INCREMENT DEFERRED FAILED

;TEST DESTINATION MODE 4
006542 010701                                SCOPE
006544 012726 000004                        MOV #4,(6)+
006550 005005                                CLR %5
006552 074546                                XOR %5,-(6)
006554 022716 000004                        CMP #4,(6)
006560 001401                                BEQ .+4
006562 000000                                HLT                                ;ERROR! INCORRECT RESULT
006564 012706 000500                        MOV #STKPTR,%6                ;RESTORE STACK PTR

;TEST DESTINATION MODE 5
006570 010701                                SCOPE
006572 012767 006756 000160                MOV #MODE1,MODE3
006600 012702 006762                        MOV #MODE3+2,%2
006604 012767 000005 000144                MOV #5,MODE1
006612 005000                                CLR %0
006614 074052                                XOR %0,@-(2)
006616 022767 000005 000132                CMP #5,MODE1
006624 001401                                BEQ .+4
006626 000000                                HLT                                ;ERROR! INCORRECT RESULT
006630 022702 006760                        CMP #MODE3,%2                ;CHECK REGISTER
006634 001401                                BEQ .+4
006636 000000                                HLT                                ;ERROR! REGISTER CONTENTS CHANGED

;TEST DESTINATION MODE 6
006640 010701                                SCOPE
006642 005067 000110                        CLR MODE1
006646 012702 000006                        MOV #6,%2
006652 012703 006760                        MOV #MODE3,%3
006656 074263 177776                                XOR %2,-2(3)
006662 022767 000006 000066                CMP #6,MODE1
006670 001401                                BEQ .+4
006672 000000                                HLT                                ;ERROR! INCORRECT RESULT
006674 022703 006760                        CMP #MODE3,%3                ;CHECK REGISTER
006700 001401                                BEQ .+4
006702 000000                                HLT                                ;ERROR! REGISTER CONTENTS CHANGED

;TEST DESTINATION MODE 7
006704 010701                                SCOPE

```

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006706	012767	006760	000042	MOV	#MODE3,MODE1	
006714	012705	177770		MOV	#-10,%5	
006720	012767	177777	000032	MOV	#-1,MODE3	
006726	074575	006766		XOR	%5,@MODE1+10(5)	
006732	022767	000007	000020	CMP	#7,MODE3	
006740	001401			BEQ	+.4	
006742	000000			HLT		;ERROR! INCORRECT RESULT
006744	022705	177770		CMP	#-10,%5	
006750	001401			BEQ	+.4	
006752	000000			HLT		;ERROR! REGISTER CONTENTS CHANGED
006754	000402			BR	+.6	;GO TO NEXT TEST
006756	000000			MODE1:	0	
006760	000000			MODE3:	0	

;TEST CONDITION CODES WHEN DESTINATION MODE IS NOT = 0
 ;N=0,Z=0,V=0,C=0

006762	010701			SCOPE		
006764	012700	000001		MOV	#1,%0	
006770	012767	000002	177760	MOV	#2,MODE1	
006776	012702	006756		MOV	#MODE1,%2	
007002	000277			SCC		
007004	000241			CLC		
007006	074022			XOR	%0,(2)+	
007010	016700	170762		MOV	PSW,%0	
007014	022700	000000		CMP	#0,%0	
007020	001401			BEQ	+.4	
007022	000000			HLT		

;N=0,Z=0,V=0,C=1

007024	010701			SCOPE		
007026	012700	000002		MOV	#2,%0	
007032	012767	000004	177716	MOV	#4,MODE1	
007040	012703	006760		MOV	#MODE3,%3	
007044	000277			SCC		
007046	074043			XOR	%0,-(3)	
007050	016700	170722		MOV	PSW,%0	
007054	022700	000001		CMP	#1,%0	
007060	001401			BEQ	+.4	
007062	000000			HLT		

;N=0,Z=1,V=0,C=0

007064	010701			SCOPE		
007066	012767	177777	177662	MOV	#-1,MODE1	
007074	012702	177777		MOV	#-1,%2	
007100	012767	000012	170670	MOV	#12,PSW	
007106	074267	177644		XOR	%2,MODE1	
007112	016700	170660		MOV	PSW,%0	
007116	022700	000004		CMP	#4,%0	
007122	001401			BEQ	+.4	
007124	000000			HLT		;ERROR! INCORRECT CONDITION CODES

;N=0,Z=1,V=0,C=1

007126	010701			SCOPE		
007130	012767	177777	177620	MOV	#-1,MODE1	
007136	012704	177777		MOV	#-1,%4	

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007142 012702 006756      MOV      #MODE1,%2
007146 000277      SCC
007150 000244      CLZ
007152 074412      XOR      %4,(2)
007154 016700 170616      MOV      PSW,%0
007160 022700 000005      CMP      #5,%0
007164 001401      BEQ
007166 000000      HLT      ;ERROR! INCORRECT CONDITION CODES

;N=1,Z=0,V=0,C=0
007170 010701      SCOPE
007172 012700 177777      MOV      #-1,%0
007176 012767 077777 177552      MOV      #77777,MODE1
007204 012767 000006 170564      MOV      #6,PSW
007212 074067 177540      XOR      %0,MODE1
007216 016700 170554      MOV      PSW,%0
007222 022700 000010      CMP      #10,%0
007226 001401      BEQ
007230 000000      HLT      ;ERROR! INCORRECT CONDITION CODES

;N=1,Z=0,V=0,C=1
007232 010701      SCOPE
007234 012700 077777      MOV      #77777,%0
007240 012767 177777 177510      MOV      #-1,MODE1
007246 012767 000007 170522      MOV      #7,PSW
007254 074067 177476      XOR      %0,MODE1
007260 016700 170512      MOV      PSW,%0
007264 022700 000011      CMP      #11,%0
007270 001401      BEQ
007272 000000      HLT      ;ERROR! INCORRECT CONDITION CODES

000000      N=0
000002      SOURCE=%2
;TEST THAT XOR OPERATES PROPERLY WHEN THE DESTINATION IS THE PSW.
007274 010701      SCOPE
007276 012767 007330 170510      MOV      #TBITSET,14 ;SET UP TRACE TRAP VECTOR
007304 005067 170506      CLR      16 ;TO TRAP TO 'TBITSET'
007310 012702 000377      MOV      #377,%2
007314 005067 170456      CLR      PSW ;CLEAR THE PSW
007320 074267 170452      XOR      %2,PSW ;XOR THE #377 INTO A CLEAR PSW
007324 000240      NOP
007326 000401      BR      .+4
007330 000000      TBITSET:HLT ;T BIT SET
007332 022767 000357 170436      CMP      #357,PSW ;DID ALL BUT THE T BIT SET?
007340 001401      BEQ
007342 000000      HLT ;PSW IS NOT CLEAR

007344 010701      SCOPE
007346 012702 000357      MOV      #357,%2
007352 012767 000357 170416      MOV      #357,PSW ;PRE SET THE STATUS WORD
007360 074267 170412      XOR      %2,PSW
007364 016700 170406      MOV      PSW,%0 ;GET RESULT
007370 001401      BEQ
007372 000000      HLT ;ERROR XOR #357,#357 FAILED TO CLEAR PSW
007374 005267 171400      END: INC ;INCREMENT THE PASS COUNT
007400 026727 171374 100000      CMP      ICNT, #100000

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007406	001402			BEQ	DONE		:GO TO DONE IF 1000 PASSES COMPLE*ED
007410	000167	171372		JMP	BEGIN		:RESTART PROGRAM
007414	012767	000007	170144	DONE:	MOV	#7,TPBUF	:RING BELL
007422	105767	170136			TSTB	TPCSR	
007426	100375				BPL	-4	
007430	013702	000042			MOV	@#42,%2	:GET DECTAPE MONITOR RETURN ADDRESS
007434	001405				BEQ	DONE1	:DO NOT RETURN IF (42)=0
007436	000005				RESET		
007440	004712			LOGICAL:	JSR	7,(2)	:START OF
007442	000240				NOP		:ACT11
007444	000240				NOP		:OVERLAY
007446	000240				NOP		:AREA
007450	000167	171326		DONE1:	JMP	START	
	000001				.END		

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CROSS REFERENCE TABLE -- USER SYMBOLS

START 001002
STKPTR= 000500
SWR = 177570
TBITSE 007330
TPBUF = 177566
TPCSR = 177564
UBREAK= 177770
Y = 000115

= 007454

1400	1415	1430	1445	1460	1475	1490	1505	1525	1544	1560	1577	1596
1605	1612	1622	1631	1639	1647	1655	1663	1671	1679	1687	1695	1703
1711	1719	1727	1735	1743	1751	1761	1770	1778	1786	1793	1807	1823
1832	1840	1850	1866	1879	1893	1903	1917	1931	1948	1961	1973	1985
1998	2009	2022	2035									
427	430#	2056										
283#	432	1900										
279#	434	436										
2023	2030#											
278#	2046*											
277#	2047											
276#	436*											
439#	440	453#	454	467#	468	481#	482	495#	496	509#	510	523#
524	537#	538	551#	554	567#	569	582#	584	597#	599	612#	614
627#	629	642#	644	657#	659	672#	674	687#	689	702#	704	717#
719	732#	734	747#	749	762#	764	777#	779	792#	796	809#	811
824#	826	839#	841	854#	856	869#	871	884#	886	899#	901	914#
916	929#	931	944#	946	959#	961	974#	976	989#	991	1004#	1006
1019#	1021	1034#	1038	1051#	1053	1066#	1068	1081#	1083	1096#	1098	1111#
1113	1126#	1128	1141#	1143	1156#	1158	1171#	1173	1186#	1188	1201#	1203
1216#	1218	1231#	1233	1246#	1248	1261#	1263	1276#	1280	1293#	1295	1308#
1310	1323#	1325	1338#	1340	1353#	1355	1368#	1370	1383#	1385	1398#	1400
1413#	1415	1428#	1430	1443#	1445	1458#	1460	1473#	1475	1488#	1490	1503#
1505	1518#	1525	1538#	1544	1557#	1560	1573#	1577	1590#	1807	1820#	
291#	292	294	296	298	300	302	304	306	308	310	312	314
316	318	320	322	324	326	328	330	332	334	336	338	340
342	344	346	348	350	352	354	356	358	360	362	364	366
368	370	372	374	376	378	380	382	384	386	388	390	392
394	396	398	400	402	404	406	408	410	412	414	416	418
421#	423#	426#	428#	435	445	447	450	459	461	464	473	475
478	487	489	492	501	503	506	515	517	520	529	531	534
543	545	548	559	561	564	574	576	579	589	591	594	604
606	609	619	621	624	634	636	639	649	651	654	664	666
669	679	681	684	694	696	699	709	711	714	724	726	729
739	741	744	754	756	759	769	771	774	784	786	789	801
803	806	816	818	821	831	833	836	846	848	851	861	863
866	876	878	881	891	893	896	906	908	911	921	923	926
936	938	941	951	953	956	966	968	971	981	983	986	996
998	1001	1011	1013	1016	1026	1028	1031	1043	1045	1048	1058	1060
1063	1073	1075	1078	1088	1090	1093	1103	1105	1108	1118	1120	1123
1133	1135	1138	1148	1150	1153	1163	1165	1168	1178	1180	1183	1193
1195	1198	1208	1210	1213	1223	1225	1228	1238	1240	1243	1253	1255
1258	1268	1270	1273	1285	1287	1290	1300	1302	1305	1315	1317	1320
1330	1332	1335	1345	1347	1350	1360	1362	1365	1375	1377	1380	1390
1392	1395	1405	1407	1410	1420	1422	1425	1435	1437	1440	1450	1452
1455	1465	1467	1470	1480	1482	1485	1495	1497	1500	1510	1512	1515
1530	1532	1535	1549	1551	1554	1565	1567	1570	1582	1584	1587	1601
1609	1617	1627	1635	1643	1651	1659	1667	1675	1683	1691	1699	1707
1715	1723	1731	1739	1747	1755	1766	1775	1783	1791	1799	1803	1804#
1812	1814	1817	1828	1836	1845	1856	1859	1862	1872	1875	1886	1889
1898	1910	1913	1923	1926	1937	1940	1942	1957	1969	1980	1994	2005
2016	2029	2032	2040	2048								

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CCKBCC.P11 08-JUL-82 12:58 CROSS REFERENCE TABLE -- MACRO NAMES

XORA	285#	440	454	468	482	496	510	524	538	554	569	584	599	614	629
	644	659	674	689	704	719	734	749	764	779	796	811	826	841	856
	871	886	901	916	931	946	961	976	991	1006	1021	1038	1053	1068	1083
	1098	1113	1128	1143	1158	1173	1188	1203	1218	1233	1248	1263	1280	1295	1310
	1325	1340	1355	1370	1385	1400	1415	1430	1445	1460	1475	1490	1505	1520	1544
XORB	1560	1577	1807												
	287#	1631	1639	1647	1655	1663	1671	1679	1687	1695	1703	1711	1719	1727	1735
	1743	1751													

. ABS. 007454 000

ERRORS DETECTED: 0

CCKBCC,CCKBCC/SOL/CRF/NL:TOC=CCKBCC.P11
RUN-TIME: 23.4 SECONDS
RUN-TIME RATIO: 82/6=12.6
CORE USED: 5K (9 PAGES)