

TEST

TEST 13 JSR,RIS,RTI
MD-11-DOM-A

EP-DOM-A-DL-A
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This microfiche strip contains 15 frames of data. The frames are arranged in two columns. The left column contains 14 frames, and the right column contains 1 frame. The data is organized into several tables and charts. The tables are arranged in a grid-like structure, with columns and rows of data. Some frames contain text, while others contain numerical data or graphical representations. The data appears to be related to the test results mentioned in the header.

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5. OPERATION PROCEDURE

5.1 OPERATIONAL SWITCH SETTINGS

NO SWITCHES ARE USED

5.2 SUBROUTINE ABSTRACTS

5.2.1 BEGIN SA 200

5.2.2 SCOPE

IS A "NOP THAT IS PLACED BETWEEN EACH SUBTEST
IN THE INSTRUCTION SECTION. IF A SCOPE LOOP IS NEEDED.
INSERT A BRANCH TO THE PREVIOUS SCOPE LOCATION AT
THE CURRENT SCOPE LOCATION. (NOTE NOP=240)

5.2.3 HLT

INDICATES THE UNIQUE ADDRESS THAT TAGS THE FAILING
SUBTEST. THE INCORRECT DATA AT THE TIME OF THE FAIL-
URE MAY OR MAY NOT BE DISPLAYED IN REGISTER ZERO, WHICH
IS THE DATA REGISTER ON A HALT.

5.2.4 TRAPCATCHER

THIS IS A SERIES OF INSTRUCTIONS DESIGNED TO DETECT AND
ISOLATE UNEXPECTED TRAPS AND INTERRUPTS, THAT OCCUR IN THE
TRAP AND INTERRUPT VECTOR AREA OF MEMORY.

THE PRINCIPAL OF THIS ROUTINE IS: THE VECTOR ENTRANCE
ADDRESS POINTS TO THE NEXT SEQUENTIAL WORD WHICH WILL CON-
TAIN A HALT (00000) (THIS LOCATION IS ALSO THE STATUS
WORD FOR THAT VECTOR ENTRANCE. BUT THIS WILL HAVE NO EFFECT
ON IT ALSO BEING THE NEXT INSTRUCTION).

IF A HALT OCCURES IN THE TRAP OR INTERRUPT VECTOR AREA,
REGISTER SIX SHOULD BE EXAMINED TO DETERMINE ITS CONTENTS,
THEN USE REGISTER SIX CONTENTS AS AN ADDRESS TO DETERMINE
THE LOCATION THE PROGRAM WAS AT. WHEN THE INTERRUPT OR
TRAP OCCURRED. (MEMORY AS SPECIFIED BY R6 CONTAINS THE
PC OF THE INSTRUCTION FOLLOWING THE INSTRUCTION WHERE THE
TRAP OCCURED)

5.3 PROGRAM AND/OR OPERATOR ACTION

5.3.1 LOADING AND STARTING AT 200 STARTS THE TEST. IF
AN ERROR IS DETECTED. THERE WILL BE A HALT.
WHEN A HALT OCCURS AND IT IS NECESSARY TO SCOPE ON
IT, PLACE INSERT A BRANCH INSTRUCTION IN THE SCOPE
LOCATION FOLLOWING THE HALT. THE BRANCH INSTRUCTION
SHOULD BRANCH YOU TO THE PREVIOUS SCOPE LOCATION.

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6. ERRORS

6.1 ALL ERRORS WILL CAUSE A HALT.

6.2 ERROR RECOVERY

ON TRAP ERRORS - RESTART AT 200.
DEPRESS CONTINUE TO CONTINUE TEST

7. RESTRICTIONS

7.1 STARTING RESTRICTION

NONE

7.2 OPERATIONAL RESTRICTION

NONE

8. MISCELLANEOUS

8.1 EXECUTION TIME

FOR THE TEST ABOUT 2 MINUTES

9. PROGRAM DESCRIPTION

THIS IS THE FIRST PROGRAM THAT USES THE STACK. REGISTER SIX IS TESTED TO SEE THAT IT INCREMENTS AND DECREMENTS CORRECTLY. THAT THE CORRECT DATA IS TRANSFERED TO THE STACK FROM THE REGISTERS AND THAT THE STACK ALSO TRANSFERS CORRECTLY TO THE REGISTERS.

WHEN USING THE RTI INSTRUCTION THE STACK IS INCREMENTED TWO WORDS THE RESULTS ARE TESTED TO SEE IF THE STATUS IS SET UP CORRECTLY. THE JSR AND RTS ARE TESTED TO A LEVEL SEVEN DEEP.

10. LISTING

11. FLOW CHART(S)

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161			%	
162				
163			; TEST 13	
164			; COPYRIGHT 1970, DIGITAL EQUIPMENT CORP., MAYNARD MASS.	
165			; TEST JSR, RTS AND RTI INSTRUCTION	
166			; PDP11 SUBROUTINE TEST	
167		000000	HLT=HALT	
168		000240	SCOPE=240	
169		000240	OPR=240	
170		000240	NOP=240	
171		000006	LP=%6	; STACK POINTER
172		000000	. = 0	
173	000000	000002	. + 2	
174	000002	000000	HALT	; TRAPPED TO PREVIOUS ADDRESS
175	000004	000006	. + 2	
176	000006	000000	HALT	; TRAPPED TO PREVIOUS ADDRESS
177	000010	000012	. + 2	
178	000012	000000	HALT	; TRAPPED TO PREVIOUS ADDRESS
179	000014	000016	. + 2	
180	000016	000000	HALT	; TRAPPED TO PREVIOUS ADDRESS
181	000020	000022	. + 2	
182	000022	000000	HALT	; TRAPPED TO PREVIOUS ADDRESS
183	000024	000026	. + 2	
184	000026	000000	HALT	; TRAPPED TO PREVIOUS ADDRESS
185	000030	000032	. + 2	
186	000032	000000	HALT	; TRAPPED TO PREVIOUS ADDRESS
187	000034	000036	. + 2	
188	000036	000000	HALT	; TRAPPED TO PREVIOUS ADDRESS
189	000040	000042	. + 2	
190	000042	000000	HALT	; TRAPPED TO PREVIOUS ADDRESS
191	000044	000046	. + 2	
192	000046	000000	HALT	; TRAPPED TO PREVIOUS ADDRESS
193	000050	000052	. + 2	
194	000052	000000	HALT	; TRAPPED TO PREVIOUS ADDRESS
195	000054	000056	. + 2	
196	000056	000000	HALT	; TRAPPED TO PREVIOUS ADDRESS
197	000060	000062	. + 2	
198	000062	000000	HALT	; TRAPPED TO PREVIOUS ADDRESS
199	000064	000066	. + 2	
200	000066	000000	HALT	; TRAPPED TO PREVIOUS ADDRESS
201	000070	000072	. + 2	
202	000072	000000	HALT	; TRAPPED TO PREVIOUS ADDRESS
203	000074	000076	. + 2	
204	000076	000000	HALT	; TRAPPED TO PREVIOUS ADDRESS
205		000200	. = 200	

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207									
208		000000		N=0					
209	000200	000240		SCOPE					;TEST ABILITY OF JSR TO JUMP
210	000202	012706	003432	MOV	#BUFF,LP				;SET UP LINK POINTER
211	000206	004067	000002	JSR	%0,+.6				;JSR AROUND HALT
212	000212	000000		HLT					;JSR FAILED TO JUMP
213									
214	000214	000240		SCOPE					;TEST PC+2 TO REG 0
215	000216	012706	003432	MOV	#BUFF,LP				;SET UP LINK POINTER
216	000222	004067	000000	JSR	%0,+.4				;JSR TO NEXT INSTRUCTION
217	000226	022700	000226	CMP	#,%0				;TEST REG 0 FOR CORRECT MOVE
218	000232	001401		BEQ	.+4				;BRANCH IF CORRECT
219	000234	000000		HLT					;REG 0 VALUE NOT CORRECT
220									
221	000236	000240		SCOPE					;TEST DECREMENT OF LP
222	000240	012706	003432	MOV	#BUFF,LP				;SET UP LINK POINTER
223	000244	004067	000000	JSR	%0,+.4				;JSR TO NEXT INSTRUCTION
224	000250	020627	003430	CMP	LP,#BUFF-2				;TEST (LP) FOR INITIAL MINUS 2
225	000254	001401		BEQ	.+4				;BRANCH IF CORRECT
226	000256	000000		HLT					;LINK POINTER NOT CORRECT
227									
228	000260	000240		SCOPE					;TEST TRANSFER OF (REG 0) TO (LP)
229	000262	012700	177777	MOV	#-1,%0				;INITIALIZE REG 0 TO ONES
230	000266	012706	003432	MOV	#BUFF,LP				;SET UP LINK POINTER
231	000272	004067	000000	JSR	%0,+.4				;JMP TO NEXT INSTRUCTION
232	000276	026727	003126	CMP	BUFF-2,#-1				;TEST BUFF-2 FOR ONES
233	000304	001401		BEQ	.+4				
234	000306	000000		HLT					; (REG) WAS NOT TRANSFERED TO LP
235									
236	000310	000240		SCOPE					;TEST JMP INDIRECT THE LITERAL
237	000312	012706	003432	MOV	#BUFF,LP				;SET UP POINTER
238	000316	004037	000324	JSR	%0,@#.6				;JMP OVER THE HLT
239	000322	000000		HLT					;JSR FAILED
240	000324	000240		OPR					;SHOULD JUMP TO HERE
241									
242	000326	000240		SCOPE					;TEST JSR INDIRECT A LOCATION
243	000330	012706	003432	MOV	#BUFF,LP				;SET UP LINK POINTER
244	000334	004077	000000	JSR	%0,@.4				;JSR DEFERED NEXT LOCATION
245	000340	000344		.+4					;POINTS TO OPERATE INSTRUCTION
246	000342	000000		HLT					;FAILED TO JSR TO OPR
247	000344	000240		OPR					;SHOULD JSR HERE
248									
249	000346	000240		SCOPE					
250	000350	012700	000364	MOV	#+14,%0				;POINT TO BRANCH .+4
251	000354	012706	003432	MOV	#BUFF,LP				
252	000360	004010		JSR	%0,@%0				
253	000362	000000		HLT					;CURRENT REG USED INSTEAD OF PREVIOUS
254	000364	000401		BR	.+4				
255	000366	000000		HLT					
256	000370	020027	000362	CMP	%0,#.-6				
257	000374	001401		BEQ	.+4				
258	000376	000000		HLT					;REG 0 NOT SET CORRECTLY
259									
260	000400	000240		SCOPE					;TEST JSR AUTO DECREMENT
261	000402	012706	003432	MOV	#BUFF,LP				;SET UP STACK
262	000406	012700	000416	MOV	#+10,%0				;REG 0 POINTS TO THE HLT

263	000412	004740		JSR	%7,-(0)		;TEST THE AUTO DECREMENT
264	000414	000401		BR	+.4		
265	000416	000000		HLT			;DID NOT AUTO DECREMENT
266	000420	020027	000414	CMP	%0,#.-4		
267	000424	001401		BEQ	+.4		
268	000426	000000		HLT			;FALSE AUTO DECREMENT
269							
270							;TEST THE RTS INSTRUCTION
271							
272	000430	000240		SCOPE			;TEST (REG) TO (PC)
273	000432	012706	003432	MOV	#BUFF,LP		;SET UP LINK POINTER
274	000436	012700	000446	MOV	#+10,%0		;RETURN TO REG 0
275	000442	000200		RTS	%0		;RETURN AS SPECIFIED BY (REG 0)
276	000444	000000		HLT			;RTS FAILED
277	000446	000240		OPR			;SHOULD RETURN HERE
278							
279	000450	000240		SCOPE			;TEST (LP+2) TO (LP)
280	000452	012706	003432	MOV	#BUFF,LP		;SET UP LINK POINTER
281	000456	012700	000464	MOV	#+6,%0		;SET UP (REG 0)
282	000462	000200		RTS	%0		;RETURN TO (REG 0)
283	000464	020627	003434	CMP	LP,#BUFF+2		;LP SHOULD BE INCREMENTED
284	000470	001401		BEQ	+.4		
285	000472	000000		HLT			;LINK POINTER NOT CORRECT
286							
287	000474	000240		SCOPE			;TEST ((LP)) TO (REG 0)
288	000476	012767	041101 002726	MOV	#*AB,BUFF		;ASCII (AB) TO BUFFER
289	000504	012706	003432	MOV	#BUFF,LP		;SET UP LINK POINTER
290	000510	012700	000516	MOV	#+6,%0		;RETURN POINTER TO 0
291	000514	000200		RTS	%0		;RETURN INSTRUCTION
292	000516	020027	041101	CMP	%0,#*AB		;TEST ((LP)) TO REG 0)
293	000522	001401		BEQ	+.4		;BRANCH IF EQUAL
294	000524	000000		HLT			;REG 0 NOT EQUAL ASCII "AB"
295							
296							
297							
298							
299		000001		N=N+1			
300	000526	000240		SCOPE			;TEST ABILITY OF JSR TO JUMP
301	000530	012706	003432	MOV	#BUFF,LP		;SET UP LINK POINTER
302	000534	004167	000002	JSR	%1,+.6		;JSR AROUND HALT
303	000540	000000		HLT			;JSR FAILED TO JUMP
304							
305	000542	000240		SCOPE			;TEST PC+2 TO REG 1
306	000544	012706	003432	MOV	#BUFF,LP		;SET UP LINK POINTER
307	000550	004167	000000	JSR	%1,+.4		;JSR TO NEXT INSTRUCTION
308	000554	022701	000554	CMP	%,%1		;TEST REG 1 FOR CORRECT MOVE
309	000560	001401		BEQ	+.4		;BRANCH IF CORRECT
310	000562	000000		HLT			;REG 1 VALUE NOT CORRECT
311							
312	000564	000240		SCOPE			;TEST DECREMENT OF LP
313	000566	012706	003432	MOV	#BUFF,LP		;SET UP LINK POINTER
314	000572	004167	000000	JSR	%1,+.4		;JSR TO NEXT INSTRUCTION
315	000576	020627	003430	CMP	LP,#BUFF-2		;TEST (LP) FOR INITIAL MINUS 2
316	000602	001401		BEQ	+.4		;BRANCH IF CORRECT
317	000604	000000		HLT			;LINK POINTER NOT CORRECT
318							

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319	000606	000240		SCOPE		; TEST TRANSFER OF (REG 1) TO (LP)
320	000610	012701	177777	MOV	#-1,%1	; INITIALIZE REG 1 TO ONES
321	000614	012706	003432	MOV	#BUFF,LP	; SET UP LINK POINTER
322	000620	004167	000000	JSR	%1,+4	; JMP TO NEXT INSTRUCTION
323	000624	026727	002600	CMP	BUFF-2,%-1	; TEST BUFF-2 FOR ONES
324	000632	001401		BEQ	+.4	
325	000634	000000		HLT		; (REG) WAS NOT TRANSFERED TO LP
326						
327	000636	000240		SCOPE		; TEST JMP INDIRECT THE LITERAL
328	000640	012706	003432	MOV	#BUFF,LP	; SET UP POINTER
329	000644	004137	000652	JSR	%1,%#. +6	; JMP OVER THE HLT
330	000650	000000		HLT		; JSR FAILED
331	000652	000240		OPR		; SHOULD JUMP TO HERE
332						
333	000654	000240		SCOPE		; TEST JSR INDIRECT A LOCATION
334	000656	012706	003432	MOV	#BUFF,LP	; SET UP LINK POINTER
335	000662	004177	000000	JSR	%1,%#. +4	; JSR DEFERED NEXT LOCATION
336	000666	000672		+.4		; POINTS TO OPERATE INSTRUCTION
337	000670	000000		HLT		; FAILED TO JSR TO OPR
338	000672	000240		OPR		; SHOULD JSR HERE
339						
340	000674	000240		SCOPE		
341	000676	012701	000712	MOV	#+14,%1	; POINT TO BRANCH .+4
342	000702	012706	003432	MOV	#BUFF,LP	
343	000706	004111		JSR	%1,%#. +1	
344	000710	000000		HLT		; CURRENT REG USED INSTEAD OF PREVIOUS
345	000712	000401		BR	+.4	
346	000714	000000		HLT		
347	000716	020127	000710	CMP	%1,%#. -6	
348	000722	001401		BEQ	+.4	
349	000724	000000		HLT		; REG 1 NOT SET CORRECTLY
350						
351	000726	000240		SCOPE		; TEST JSR AUTO DECREMENT
352	000730	012706	003432	MOV	#BUFF,LP	; SET UP STACK
353	000734	012701	000744	MOV	#+10,%1	; REG 1 POINTS TO THE HLT
354	000740	004741		JSR	%7,-(1)	; TEST THE AUTO DECREMENT
355	000742	000401		BR	+.4	
356	000744	000000		HLT		; DID NOT AUTO DECREMENT
357	000746	020127	000742	CMP	%1,%#. -4	
358	000752	001401		BEQ	+.4	
359	000754	000000		HLT		; FALSE AUTO DECREMENT
360						
361						; TEST THE RTS INSTRUCTION
362						
363	000756	000240		SCOPE		; TEST (REG) TO (PC)
364	000760	012706	003432	MOV	#BUFF,LP	; SET UP LINK POINTER
365	000764	012701	000774	MOV	#+10,%1	; RETURN TO REG 1
366	000770	000201		RTS	%1	; RETURN AS SPECIFIED BY (REG 1)
367	000772	000000		HLT		; RTS FAILED
368	000774	000240		OPR		; SHOULD RETURN HERE
369						
370	000776	000240		SCOPE		; TEST (LP+2) TO (LP)
371	001000	012706	003432	MOV	#BUFF,LP	; SET UP LINK POINTER
372	001004	012701	001012	MOV	#+6,%1	; SET UP (REG 1)
373	001010	000201		RTS	%1	; RETURN TO (REG 1)
374	001012	020627	003434	CMP	LP,#BUFF+2	; LP SHOULD BE INCREMENTED

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375	001016	001401		BEQ	.+4		
376	00102C	000000		HLT			;LINK POINTER NOT CORRECT
377							
378	001022	000240		SCOPE			;TEST ((LP)) TO (REG 1)
379	001024	012767	041101	MOV	#"AB,BUFF	002400	;ASCII (AB) TO BUFFER
380	001032	012706	003432	MOV	#BUFF,LP		;SET UP LINK POINTER
381	001036	012701	001044	MOV	#.+6,%1		;RETURN POINTER TO 1
382	001042	000201		RTS	%1		;RETURN INSTRUCTION
383	001044	020127	041101	CMP	%1,#"AB		;TEST ((LP)) TO REG 1)
384	00105C	001401		BEQ	.+4		;BRANCH IF EQUAL
385	001052	000000		HLT			;REG 1 NOT EQUAL ASCII "AB"
386							
387							
388							
389							
390		000002		N=N+1			
391	001054	000240		SCOPE			;TEST ABILITY OF JSR TO JUMP
392	001056	012706	003432	MOV	#BUFF,LP		;SET UP LINK POINTER
393	001062	004267	000002	JSR	%2,+.+6		;JSR AROUND HALT
394	001066	000000		HLT			;JSR FAILED TO JUMP
395							
396	001070	000240		SCOPE			;TEST PC+2 TO REG 2
397	001072	012706	003432	MOV	#BUFF,LP		;SET UP LINK POINTER
398	001076	004267	000000	JSR	%2,+.+4		;JSR TO NEXT INSTRUCTION
399	001102	022702	001102	CMP	#,%2		;TEST REG 2 FOR CORRECT MOVE
400	001106	001401		BEQ	.+4		;BRANCH IF CORRECT
401	001110	000000		HLT			;REG 2 VALUE NOT CORRECT
402							
403	001112	000240		SCOPE			;TEST DECREMENT OF LP
404	001114	012706	003432	MOV	#BUFF,LP		;SET UP LINK POINTER
405	001120	004267	000000	JSR	%2,+.+4		;JSR TO NEXT INSTRUCTION
406	001124	020627	003430	CMP	LP,#BUFF-2		;TEST (LP) FOR INITIAL MINUS 2
407	001130	001401		BEQ	.+4		;BRANCH IF CORRECT
408	001132	000000		HLT			;LINK POINTER NOT CORRECT
409							
410	001134	000240		SCOPE			;TEST TRANSFER OF (REG 2) TO (LP)
411	001136	012702	177777	MOV	#-1,%2		;INITIALIZE REG 2 TO ONES
412	001142	012706	003432	MOV	#BUFF,LP		;SET UP LINK POINTER
413	001146	004267	000000	JSR	%2,+.+4		;JMP TO NEXT INSTRUCTION
414	001152	026727	002252	CMP	BUFF-2,#-1	177777	;TEST BUFF-2 FOR ONES
415	001160	001401		BEQ	.+4		
416	001162	000000		HLT			; (REG) WAS NOT TRANSFERED TO LP
417							
418	001164	000240		SCOPE			;TEST JMP INDIRECT THE LITERAL
419	001166	012706	003432	MOV	#BUFF,LP		;SET UP POINTER
420	001172	004237	001200	JSR	%2,@#. +6		;JMP OVER THE HLT
421	001176	000000		HLT			;JSR FAILED
422	001200	000240		OPR			;SHOULD JUMP TO HERE
423							
424	001202	000240		SCOPE			;TEST JSR INDIRECT A LOCATION
425	001204	012706	003432	MOV	#BUFF,LP		;SET UP LINK POINTER
426	001210	004277	000000	JSR	%2,@. +4		;JSR DEFERED NEXT LOCATION
427	001214	001220		.+4			;POINTS TO OPERATE INSTRUCTION
428	001216	000000		HLT			;FAILED TO JSR TO OPR
429	001220	000240		OPR			;SHOULD JSR HERE
430							

431	001222	000240		SCOPE		
432	001224	012702	001240	MOV	#.+14,%2	;POINT TO BRANCH .+4
433	001230	012706	003432	MOV	#BUFF,LP	
434	001234	004212		JSR	%2,%2	
435	001236	000000		HLT		;CURRENT REG USED INSTEAD OF PREVIOUS
436	001240	000401		BR	.+4	
437	001242	000000		HLT		
438	001244	020227	001236	CMP	%2,#.-6	
439	001250	001401		BEQ	.+4	
440	001252	000000		HLT		;REG 2 NOT SET CORRECTLY
441						;TEST JSR AUTO DECREMENT
442	001254	000240		SCOPE		
443	001256	012706	003432	MOV	#BUFF,LP	;SET UP STACK
444	001262	012702	001272	MOV	#.+10,%2	;REG 2 POINTS TO THE HLT
445	001266	004742		JSR	%7,-(2)	;TEST THE AUTO DECREMENT
446	001270	000401		BR	.+4	
447	001272	000000		HLT		;DID NOT AUTO DECREMENT
448	001274	020227	001270	CMP	%2,#.-4	
449	001300	001401		BEQ	.+4	
450	001302	000000		HLT		;FALSE AUTO DECREMENT
451						
452						;TEST THE RTS INSTRUCTION
453						
454	001304	000240		SCOPE		;TEST (REG) TO (PC)
455	001306	012706	003432	MOV	#BUFF,LP	;SET UP LINK POINTER
456	001312	012702	001322	MOV	#.+10,%2	;RETURN TO REG 2
457	001316	000202		RTS	%2	;RETURN AS SPECIFIED BY (REG 2)
458	001320	000000		HLT		;RTS FAILED
459	001322	000240		OPR		;SHOULD RETURN HERE
460						
461	001324	000240		SCOPE		;TEST (LP+2) TO (LP)
462	001326	012706	003432	MOV	#BUFF,LP	;SET UP LINK POINTER
463	001332	012702	001340	MOV	#.+6,%2	;SET UP (REG 2)
464	001336	000202		RTS	%2	;RETURN TO (REG 2)
465	001340	020627	003434	CMP	LP,#BUFF+2	;LP SHOULD BE INCREMENTED
466	001344	001401		BEQ	.+4	
467	001346	000000		HLT		;LINK POINTER NOT CORRECT
468						
469	001350	000240		SCOPE		;TEST ((LP)) TO (REG 2)
470	001352	012767	041101 002052	MOV	#"AB,BUFF	;ASCII (AB) TO BUFFER
471	001360	012706	003432	MOV	#BUFF,LP	;SET UP LINK POINTER
472	001364	012702	001372	MOV	#.+6,%2	;RETURN POINTER TO 2
473	001370	000202		RTS	%2	;RETURN INSTRUCTION
474	001372	020227	041101	CMP	%2,#"AB	;TEST ((LP)) TO REG 2)
475	001376	001401		BEQ	.+4	;BRANCH IF EQUAL
476	001400	000000		HLT		;REG 2 NOT EQUAL ASCII "AB"
477						
478						
479						
480						
481		000003		N=N+1		
482	001402	000240		SCOPE		;TEST ABILITY OF JSR TO JUMP
483	001404	012706	003432	MOV	#BUFF,LP	;SET UP LINK POINTER
484	001410	004367	000002	JSR	%3,+.6	;JSR AROUND HALT
485	001414	000000		HLT		;JSR FAILED TO JUMP
486						

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487	001416	000240		SCOPE			; TEST PC+2 TO REC 3
488	001420	012706	003432	MOV	#BUFF,LP		; SET UP LINK POINTER
489	001424	004367	000000	JSR	%3, .+4		; JSR TO NEXT INSTRUCTION
490	001430	022703	001430	CMP	#, %3		; TEST REG 3 FOR CORRECT MOVE
491	001434	001401		BEQ	.+4		; BRANCH IF CORRECT
492	001436	000000		HLT			; REG 3 VALUE NOT CORRECT
493							
494	001440	000240		SCOPE			; TEST DECREMENT OF LP
495	001442	012706	003432	MOV	#BUFF,LP		; SET UP LINK POINTER
496	001446	004367	000000	JSR	%3, .+4		; JSR TO NEXT INSTRUCTION
497	001452	020627	003430	CMP	LP, #BUFF-2		; TEST (LP) FOR INITIAL MINUS 2
498	001456	001401		BEQ	.+4		; BRANCH IF CORRECT
499	001460	000000		HLT			; LINK POINTER NOT CORRECT
500							
501	001462	000240		SCOPE			; TEST TRANSFER OF (REG 3) TO (LP)
502	001464	012703	177777	MOV	#, %3		; INITIALIZE REG 3 TO ONES
503	001470	012706	003432	MOV	#BUFF,LP		; SET UP LINK POINTER
504	001474	004367	000000	JSR	%3, .+4		; JMP TO NEXT INSTRUCTION
505	001500	026727	001724 177777	CMP	BUFF-2, #-1		; TEST BUFF-2 FOR ONES
506	001506	001401		BEQ	.+4		
507	001510	000000		HLT			; (REG) WAS NOT TRANSFERED TO LP
508							
509	001512	000240		SCOPE			; TEST JMP INDIRECT THE LITERAL
510	001514	012706	003432	MOV	#BUFF,LP		; SET UP POINTER
511	001520	004337	001526	JSR	%3, @#. +6		; JMP OVER THE HLT
512	001524	000000		HLT			; JSR FAILED
513	001526	000240		OPR			; SHOULD JUMP TO HERE
514							
515	001530	000240		SCOPE			; TEST JSR INDIRECT A LOCATION
516	001532	012706	003432	MOV	#BUFF,LP		; SET UP LINK POINTER
517	001536	004377	000000	JSR	%3, @. +4		; JSR DEFERED NEXT LOCATION
518	001542	001546		.+4			; POINTS TO OPERATE INSTRUCTION
519	001544	000000		HLT			; FAILED TO JSR TO OPR
520	001546	000240		OPR			; SHOULD JSR HERE
521							
522	001550	000240		SCOPE			
523	001552	012703	001566	MOV	#, +14, %3		; POINT TO BRANCH .+4
524	001556	012706	003432	MOV	#BUFF,LP		
525	001562	004313		JSR	%3, @%3		
526	001564	000000		HLT			; CURRENT REG USED INSTEAD OF PREVIOUS
527	001566	000401		BR	.+4		
528	001570	000000		HLT			
529	001572	020327	001564	CMP	%3, #. -6		
530	001576	001401		BEQ	.+4		
531	001600	000000		HLT			; REG 3 NOT SET CORRECTLY
532							
533				; TEST JSR AUTO DECREMENT			
533	001602	000240		SCOPE			
534	001604	012706	003432	MOV	#BUFF,LP		; SET UP STACK
535	001610	012703	001620	MOV	#, +10, %3		; REG 3 POINTS TO THE HLT
536	001614	004743		JSR	%7, -(3)		; TEST THE AUTO DECREMENT
537	001616	000401		BR	.+4		
538	001620	000000		HLT			; DID NOT AUTO DECREMENT
539	001622	020327	001616	CMP	%3, #. -4		
540	001626	001401		BEQ	.+4		
541	001630	000000		HLT			; FALSE AUTO DECREMENT
542							

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543                                     ;TEST THE RTS INSTRUCTION
544
545 001632 000240          SCOPE          ;TEST (REG) TO (PC)
546 001634 012706 003432  MOV          #BUFF,LP      ;SET UP LINK POINTER
547 001640 012703 001650  MOV          #.+10,%3    ;RETURN TO REG 3
548 001644 000203          RTS          %3          ;RETURN AS SPECIFIED BY (REG 3)
549 001646 000000          HLT
550 001650 000240          OPR          ;RTS FAILED
                                           ;SHOULD RETURN HERE
551
552 001652 000240          SCOPE          ;TEST (LP+2) TO (LP)
553 001654 012706 003432  MOV          #BUFF,LP      ;SET UP LINK POINTER
554 001660 012703 001666  MOV          #.+6,%3    ;SET UP (REG 3)
555 001664 000203          RTS          %3          ;RETURN TO (REG 3)
556 001666 020627 003434  CMP          LP,#BUFF+2  ;LP SHOULD BE INCREMENTED
557 001672 001401          BEQ          .+4
558 001674 000000          HLT          ;LINK POINTER NOT CORRECT
559
560 001676 000240          SCOPE          ;TEST ((LP)) TO (REG 3)
561 001700 012767 041101 001524  MOV          #"AB,BUFF  ;ASCII (AB) TO BUFFER
562 001706 012706 003432  MOV          #BUFF,LP      ;SET UP LINK POINTER
563 001712 012703 001720  MOV          #.+6,%3    ;RETURN POINTER TO 3
564 001716 000203          RTS          %3          ;RETURN INSTRUCTION
565 001720 020327 041101  CMP          %3,#"AB    ;TEST ((LP)) TO REG 3)
566 001724 001401          BEQ          .+4          ;BRANCH IF EQUAL
567 001726 000000          HLT          ;REG 3 NOT EQUAL ASCII "AB"
568
569
570
571
572                                     N=N+1
573 001730 000004          SCOPE
574 001732 012706 003432  MOV          #BUFF,LP      ;TEST ABILITY OF JSR TO JUMP
575 001736 004467 000002  JSR          %4,+.6     ;SET UP LINK POINTER
576 001742 000000          HLT          ;JSR AROUND HALT
                                           ;JSR FAILED TO JUMP
577
578 001744 000240          SCOPE          ;TEST PC+2 TO REG 4
579 001746 012706 003432  MOV          #BUFF,LP      ;SET UP LINK POINTER
580 001752 004467 000000  JSR          %4,+.4     ;JSR TO NEXT INSTRUCTION
581 001756 022704 001756  CMP          #,%4       ;TEST REG 4 FOR CORRECT MOVE
582 001762 001401          BEQ          .+4          ;BRANCH IF CORRECT
583 001764 000000          HLT          ;REG 4 VALUE NOT CORRECT
584
585 001766 000240          SCOPE          ;TEST DECREMENT OF LP
586 001770 012706 003432  MOV          #BUFF,LP      ;SET UP LINK POINTER
587 001774 004467 000000  JSR          %4,+.4     ;JSR TO NEXT INSTRUCTION
588 002000 020627 003430  CMP          LP,#BUFF-2  ;TEST (LP) FOR INITIAL MINUS 2
589 002004 001401          BEQ          .+4          ;BRANCH IF CORRECT
590 002006 000000          HLT          ;LINK POINTER NOT CORRECT
591
592 002010 000240          SCOPE          ;TEST TRANSFER OF (REG 4) TO (LP)
593 002012 012704 177777  MOV          #-1,%4     ;INITIALIZE REG 4 TO ONES
594 002016 012706 003432  MOV          #BUFF,LP      ;SET UP LINK POINTER
595 002022 004467 000000  JSR          %4,+.4     ;JMP TO NEXT INSTRUCTION
596 002026 026727 001376 177777  CMP          BUFF-2,#-1  ;TEST BUFF-2 FOR ONES
597 002034 001401          BEQ          .+4
598 002036 000000          HLT          ;(REG) WAS NOT TRANSFERED TO LP

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599							
600	002040	000240		SCOPE			;TEST JMP INDIRECT THE LITERAL
601	002042	012706	003432	MOV	#BUFF,LP		;SET UP POINTER
602	002046	004437	002054	JSR	%4,2#. +6		;JMP OVER THE HLT
603	002052	000000		HLT			;JSR FAILED
604	002054	000240		OPR			;SHOULD JUMP TO HERE
605							
606	002056	000240		SCOPE			;TEST JSR INDIRECT A LOCATION
607	002060	012706	003432	MOV	#BUFF,LP		;SET UP LINK POINTER
608	002064	004477	000000	JSR	%4,2. +4		;JSR DEFERED NEXT LOCATION
609	002070	002074		. +4			;POINTS TO OPERATE INSTRUCTION
610	002072	000000		HLT			;FAILED TO JSR TO OPR
611	002074	000240		OPR			;SHOULD JSR HERE
612							
613	002076	000240		SCOPE			
614	002100	012704	002114	MOV	#. +14, %4		;POINT TO BRANCH .+4
615	002104	012706	003432	MOV	#BUFF,LP		
616	002110	004414		JSR	%4,2%4		
617	002112	000000		HLT			;CURRENT REG USED INSTEAD OF PREVIOUS
618	002114	000401		BR	.+4		
619	002116	000000		HLT			
620	002120	020427	002112	CMP	%4,#. -6		
621	002124	001401		BEQ	.+4		
622	002126	000000		HLT			;REG 4 NOT SET CORRECTLY
623							
624	002130	000240					;TEST JSR AUTO DECREMENT
625	002132	012706	003432	MOV	#BUFF,LP		;SET UP STACK
626	002136	012704	002146	MOV	#. +10, %4		;REG 4 POINTS TO THE HLT
627	002142	004744		JSR	%7, -(4)		;TEST THE AUTO DECREMENT
628	002144	000401		BR	.+4		
629	002146	000000		HLT			;DID NOT AUTO DECREMENT
630	002150	020427	002144	CMP	%4,#. -4		
631	002154	001401		BEQ	.+4		
632	002156	000000		HLT			;FALSE AUTO DECREMENT
633							
634							;TEST THE RTS INSTRUCTION
635							
636	002160	000240		SCOPE			;TEST (REG) TO (PC)
637	002162	012706	003432	MOV	#BUFF,LP		;SET UP LINK POINTER
638	002166	012704	002176	MOV	#. +10, %4		;RETURN TO REG 4
639	002172	000204		RTS	%4		;RETURN AS SPECIFIED BY (REG 4)
640	002174	000000		HLT			;RTS FAILED
641	002176	000240		OPR			;SHOULD RETURN HERE
642							
643	002200	000240		SCOPE			;TEST (LP+2) TO (LP)
644	002202	012706	003432	MOV	#BUFF,LP		;SET UP LINK POINTER
645	002206	012704	002214	MOV	#. +6, %4		;SET UP (REG 4)
646	002212	000204		RTS	%4		;RETURN TO (REG 4)
647	002214	020627	003434	CMP	LP, #BUFF+2		;LP SHOULD BE INCREMENTED
648	002220	001401		BEQ	.+4		
649	002222	000000		HLT			;LINK POINTER NOT CORRECT
650							
651	002224	000240		SCOPE			;TEST ((LP)) TO (REG 4)
652	002226	012767	041101 001176	MOV	#*AB, BUFF		;ASCII (AB) TO BUFFER
653	002234	012706	003432	MOV	#BUFF, LP		;SET UP LINK POINTER
654	002240	012704	002246	MOV	#. +6, %4		;RETURN POINTER TO 4

655	002244	000204			RTS	%4		;RETURN INSTRUCTION
656	002246	020427	041101		CMP	%4, #AB		;TEST ((LP)) TO REG 4)
657	002252	001401			BEQ	.+4		;BRANCH IF EQUAL
658	002254	000000			HLT			;REG 4 NOT EQUAL ASCII "AB"
659								
660								
661								
662								
663		000005				N=N+1		
664								
665								
666	002256	000240						;TEST ((LP)) TO (PC)
667	002260	005067	001150		SCOPE			;CLR RTI STATUS
668	002264	012767	002302	001140	CLR	BUFF+2		;RETURN POINTER TO BUFFER
669	002272	012706	003432		MOV	#.+16,BUFF		;SET UP BUFFER POINTER
670	002276	000002			MOV	#BUFF,LP		;RETURN
671	002300	000000			RTI			;RTI FAILED
672	002302	000240			HLT			;SHOULD RETURN HERE
673					OPR			
674	002304	000240			SCOPE			;TEST THAT (LP) +4 TO LP
675	002306	012706	003432		MOV	#BUFF,LP		;SET UP BUFFER POINTER
676	002312	012767	002322	001112	MOV	#.+10,BUFF		;SET UP. RETURN
677	002320	000002			RTI			;RETURN NEXT INSTRUCTION
678	002322	020627	003436		CMP	LP, #BUFF+4		;LP SHOULD BE PLUS 4
679	002326	001401			BEQ	.+4		
680	002330	000000			HLT			;LP NOT INCREMENTED
681								
682	002332	000240			SCOPE			;TEST ((LP+2)) TO STATUS
683	002334	012767	000357	001072	MOV	#357,BUFF+2		;RETURN STATUS ALL ONES
684	002342	012706	003432		MOV	#BUFF,LP		;SET UP BUFFER POINTER
685	002346	012767	002360	001056	MOV	#.+12,BUFF		;SET UP RETURN POINTER
686	002354	000257			CCC			;CLEAR CONDITION CODES
687	002356	000002			RTI			;RETURN

688								
689	002360	001401						
690	002362	000000						
691	002364	102401						
692	002366	000000						
693	002370	100401						
694	002372	000000						
695	002374	103401						
696	002376	000000						
697								
698	002400	000240						
699	002402	005067	001026					
700	002406	012706	003432					
701	002412	012767	002424	001012				
702	002420	000277						
703	002422	000002						
704	002424	001001						
705	002426	000000						
706	002430	102001						
707	002432	000000						
708	002434	100001						
709	002436	000000						
710	002440	103001						
711	002442	000000						
712								
713								
714	002444	000240						
715	002446	012706	003432					
716	002452	004767	000002					
717	002456	000000						
718								
719	002460	000240						
720	002462	012706	003432					
721	002466	004767	000000					
722	002472	020627	003430					
723	002476	001401						
724	002500	000000						
725								
726	002502	000240						
727	002504	012706	003432					
728	002510	004767	000000					
729	002514	022767	002514	000706				
730	002522	001401						
731	002524	000000						

;TEST JSR %7, X

BEQ .+4
 HLT ;Z NOT SET
 BVS .+4
 HLT ;V NOT SET
 BMI .+4
 HLT ;N NOT SET
 BCS .+4
 HLT ;C NOT SET
 SCOPE
 CLR BUFF+2 ;ZERO TO STATUS
 MOV #BUFF,LP
 MOV #.+12,BUFF
 SCC ;SET CONDITION CODES
 RTI ;RETURN
 BNE .+4
 HLT ;Z NOT CLEARED
 BVC .+4
 HLT ;V NOT CLEARED
 BPL .+4
 HLT ;N NOT CLEARED
 BCC .+4
 HLT ;C NOT CLEARED

SCOPE
 MOV #BUFF,LP ;SETUP LINK POINTER
 JSR %7, .+6 ;JSR AROUND HALT
 HLT ;JSR %7, .+6 FAILED
 SCOPE
 MOV #BUFF,LP ;SET UP LINK POINTER
 JSR %7, .+4 ;TO NEXT LOCATION
 CMP LP, #BUFF-2 ;TEST(LP) FOR INITIAL MINUS 2
 BEQ .+4
 HLT ;LINK POINTER NOT CORRECT

SCOPE
 MOV #BUFF,LP ;SET UP LINK POINTER
 JSR %7, .+4
 CMP #BUFF-2 ;TEST CONTENTS FOR STACK FOR RETURN PC
 BEQ .+4
 HLT ;CONTENTS NOT CORRECT

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732	002526	000240			SCOPE		
733	002530	012706	003432		MOV	#BUFF,LP	;SET UP LINK POINTER
734	002534	012767	002564	000670	MOV	#RTS7F,BUFF	;CONTENT OF STACK
735	002542	012767	002562	000664	MOV	#RTS7E,BUFF+2	
736	002550	012767	002560	000652	MOV	#RTS7D,BUFF-2	
737	002556	004736			JSR	%7,@(6)+	;SHOULD SWAP (PC) AND (BUFF)
738	002560	000000			RTS7D: HLT		;STACK NOT INCREMENT
739	002562	000000			RTS7E: HLT		;STACK NOT DECREMENTED
740	002564	022767	002560	000640	RTS7F: CMP	#RTS7D,BUFF	;STACK SHOULD STAND STILL
741	002572	001401			BEQ	.+4	
742	002574	000000			HLT		;PC DID NOT GO TO BUFF
743							
744					;TEST RTS %7		
745	002576	000240			SCOPE		
746	002600	012767	002634	000624	MOV	#RTS7A,BUFF	;RETURN LOCATION TO STACK
747	002606	012706	003432		MOV	#BUFF,LP	;SET UP STACK POINTER
748	002612	012767	002630	000610	MOV	#RTS7B,BUFF-2	;SET UP FOR FALSE DECREMENT
749	002620	012767	002632	000606	MOV	#RTS7C,BUFF+2	;SET UP FOR FALSE INCREMENT
750	002626	000207			RTS	%7	
751	002630	000000			RTS7B: HLT		
752	002632	000000			RTS7C: HLT		
753	002634	020627	003434		RTS7A: CMP	LP,#BUFF+2	;STACK POINTER DID NOT INCREMENT
754	002640	001401			BEQ	.+4	
755	002642	000000			HLT		
756	002644	000240			SCOPE		

757							
758							
759	002646	000240					
760	002650	012706	003432				
761	002654	004767	000002				
762	002660	000000					
763	002662	004767	000002				
764	002666	000000					
765	002670	022767	002666	000530			
766	002676	001401					
767	002700	000000					
768	002702	020627	003426				
769	002706	001401					
770	002710	000000					
771							
772	002712	000240					
773	002714	012706	003432				
774	002720	012746	002740				
775	002724	012746	002734				
776	002730	000207					
777	002732	000000					
778	002734	000207					
779	002736	000000					
780	002740	000240					
781	002742	000240					
782	002744	012706	003432				
783	002750	005067	000352				
784	002754	004767	000310				
785	002760	005767	000342				
786	002764	100401					
787	002766	000000					
788							
789	002770	000240					
790	002772	012706	003432				
791	002776	004767	000264				
792	003002	000401					
793	003004	000000					
794	003006	000240					
795							
796	003010	012706	003432				
797	003014	005067	000306				
798	003020	004767	000252				
799	003024	005767	000276				
800	003030	100401					
801	003032	000000					
802	003034	000240					
803	003036	012706	003432				
804	003042	005067	000260				
805	003046	004767	000232				
806	003052	005767	000250				
807	003056	100401					
808	003060	000000					
809	003062	000240					

;TEST A JSR TO A JSR

;TEST AM RTS TO A RTS

RTS2:

RTS1:

;JSR FAILED

;JSR TO JSR FAILED

;STACK NOT PUSHED FOR TWO JSR

;PC ON STACK WRONG

;SET STACK UP

;SET STACK UP

;STACK DID NOT POP

;RTS TO RTS FAILED

;SHOULD COMPLIMENT FLAG

;TEST FLAG

;FLAG NOT COMPLIMENTED

;IMMEDIATE RETURN

;RTS AT SUB1 FAILED

;JSR OR RTS TWO DEEP

;FAILED

;JSR OR RTS THREE

;DEEP FAILED

810							
811	003064	012706	003432	MOV	#BUFF,LP		
812	003070	005067	000232	CLR	FLAG		
813	003074	004767	000212	JSR	%7, SUBRS		
814	003100	100401		BMI	.+4		
815	003102	000000		HLT			;JSR OR RTS FOUR
816	003104	000240		SCOPE			;DEEP FAILED
817							
818	003106	012706	003432	MOV	#BUFF,LP		
819	003112	005067	000210	CLR	FLAG		
820	003116	004767	000176	JSR	%7, SUBR6		
821	003122	005767	000200	TST	FLAG		
822	003126	100401		BMI	.+4		
823	003130	000000		HLT			;JSR OR RTS FIVE
824	003132	000240		SCOPE			;DEEP FAILED
825	003134	000257		CCC			
826	003136	012706	003432	MOV	#BUFF,LP		
827	003142	005067	000160	CLR	FLAG		
828	003146	004767	000146	JSR	%7, SUBR6		
829	003152	100401		BMI	.+4		
830	003154	000000		HLT			;JSR OR RTS FAILED
831	003156	001001		BNE	.+4		
832	003160	000000		HLT			;JSR OR RTS FAILED
833	003162	102001		BVC	.+4		
834	003164	000000		HLT			;JSR OR RTS FAILED
835	003166	103401		BCS	.+4		
836	003170	000000		HLT			;JSR OR RTS FAILED
837	003172	000240		SCOPE			
838							
839	003174	CJ0277		SCC			
840	003176	012706	003432	MOV	#BUFF,LP		
841	003202	005067	000120	CLR	FLAG		
842	003206	004767	000106	JSR	%7, SUBR6		
843	003212	100401		BMI	.+4		
844	003214	000000		HLT			;JSR OR RTS FAILED
845	003216	001001		BNE	.+4		
846	003220	000000		HLT			;JSR OR RTS FAILED
847	003222	102001		BVC	.+4		
848	003224	000000		HLT			;JSR OR RTS FAILED
849	003226	103401		BCS	.+4		
850	003230	000000		HLT			;JSR OR RTS FAILED
851	003232	000240		SCOPE			
852	003234	005267	000070	INC	LOOP		
853	003240	100010		BPL	FIN		
854	003242	005067	000062	CLR	LOOP		
855	003246	012737	000207	MOV	#207, @#177566		
856	003254	105737	177564	TSTB	@#177564		
857	003260	100375		BPL	.-4		
858	003262	000167	174712	JMP	200		
859				FIN:			
860	003266	000207		:GROUP OF NESTED SUBROUTINES			
861	003270	005167	000032	SUBR1:	RTS %7		;ONE INSTRUCTION
862	003274	000207		SUBR2:	COM FLAG		;ONE DEEP
863	003276	004767	177766	SUBR3:	RTS %7		
864	003302	000207		SUBR3:	JSR %7, SUBR2		;TWO DEEP
865	003304	004767	177766	SUBR4:	RTS %7		
				SUBR4:	JSR %7, SUBR3		;THREE DEEP

866	003310	000207			R/S	%7	
867	003312	004767	177766	SUBR5:	JSR	%7, SUBR4	;FOUR DEEP
868	003316	000207			RTS	%7	
869	003320	004767	177766	SUBR6:	JSR	%7, SUBR5	;FIVE DEEP
870	003324	000207			RTS	%7	
871	003326	000000		FLAG:	0		
872	003330	000000		LOOP:	0		;LOOP COUNT
873		003432		. = +100			
874	003432	000000		BUFF:	0		
875		000001			.END		

BUFF	003432	210	215	222	224	230	232	237	243	251	261	273	280	283
		288*	289	301	306	313	315	321	323	328	334	342	352	364
		371	374	379*	380	392	397	404	406	412	414	419	425	433
		443	455	462	465	470*	471	483	488	495	497	503	505	510
		516	524	534	546	553	556	561*	562	574	579	586	588	594
		596	601	607	615	625	637	644	647	652*	653	667*	668*	669
		675	676*	678	683*	684	685*	699*	700	701*	715	720	722	727
		729	733	734*	735*	736*	740	746*	747	748*	749*	753	760	765
		768	773	782	790	796	803	811	818	826	840	874*		
FIN	003262	853	858*											
FLAG	003326	783*	785	797*	799	804*	806	812*	819*	821	827*	841*	861*	871*
HLT	= 000000	167*	212	219	226	234	239	246	253	255	258	265	268	276
		285	294	303	310	317	325	330	337	344	346	349	356	359
		367	376	385	394	401	408	416	421	428	435	437	440	447
		450	458	467	476	485	492	499	507	512	519	526	528	531
		538	541	549	558	567	576	583	590	598	603	610	617	619
		622	629	632	640	649	658	671	680	690	692	694	696	705
		707	709	711	717	724	731	738	739	742	751	752	755	762
		764	767	770	777	779	787	793	801	808	815	823	830	832
		834	836	844	846	848	850							
LOOP	003330	852*	854*	872*										
LP	= %000006	171*	210*	215*	222*	224	230*	237*	243*	251*	261*	273*	280*	283
		289*	301*	306*	313*	315	321*	328*	334*	342*	352*	364*	371*	374
		380*	392*	397*	404*	406	412*	419*	425*	433*	443*	455*	462*	465
		471*	483*	488*	495*	497	503*	510*	516*	524*	534*	546*	553*	556
		562*	574*	579*	586*	588	594*	601*	607*	615*	625*	637*	644*	647
		653*	669*	675*	678	684*	700*	715*	720*	722	727*	733*	747*	753
		760*	768	773*	782*	790*	796*	803*	811*	818*	826*	840*		
		208*	209	299*	300	390*	391	481*	482	572*	573	663*		
N	= 000005	170*												
NCP	= 000240	169*	240	247	277	331	338	368	422	429	459	513	520	550
OPR	= 000240	604	611	641	672									
		774	780*											
RTS1	002740	775	778*											
RTS2	002734	746	753*											
RTS7A	002634	748	751*											
RTS7B	002630	749	752*											
RTS7C	002632	736	738*	740										
RTS7D	002560	735	739*											
RTS7E	002562	734	740*											
RTS7F	002564	168*	209	214	221	228	236	242	249	260	272	279	287	300
SCOPE	= 000240	305	312	319	327	333	340	351	363	370	378	391	396	403
		410	418	424	431	442	454	461	469	482	487	494	501	509
		515	522	533	545	552	560	573	578	585	592	600	606	613
		624	636	643	651	666	674	682	698	714	719	726	732	745
		756	759	772	780	781	789	794	802	809	816	824	937	851
		791	860*											
SUBR1	003266	784	861*	863										
SUBR2	003270	798	863*	865										
SUBR3	003276	805	865*	867										
SUBR4	003304	813	867*	869										
SUBR5	003312	820	828	842	869*									
SUBR6	003320	172*	173	175	177	179	181	183	185	187	189	191	193	195
	= 003434	197	199	201	203	205*	211	216	217	218	223	225	231	233
		238	244	245	250	254	256	257	262	264	266	267	274	281
		284	290	293	302	307	308	309	314	316	322	324	329	335

336	341	345	347	348	353	355	357	358	365	372	375	381
384	393	398	399	400	405	407	413	415	420	426	427	432
436	438	439	444	446	448	449	456	463	466	472	475	484
489	490	491	496	498	504	506	511	517	518	523	527	529
530	535	537	539	540	547	554	557	563	566	575	580	581
582	587	589	595	597	602	608	609	614	618	620	621	626
628	630	631	638	645	648	654	657	668	676	679	685	689
691	693	695	701	704	706	708	710	716	721	723	728	729
730	741	754	761	763	765	766	769	786	792	800	807	814
822	829	831	833	835	843	845	847	849	857	873*		

COMMEN	1*					
ENDCOM	1*					
ESCAPE	1*					
GETPRI	1*					
GETSWR	1*					
MULT	1*					
NEWTST	1*					
POP	1*					
PUSH	1*					
REPORT	1*					
SETPRI	1*					
SETUP	1*					
SKIP	1*					
SLASH	1*					
STARS	1*					
SWRSU	1*					
TJSRA	207*	209	300	391	482	573
TYPBIN	1*					
TYPDEC	1*					
TYPNAM	1*					
TYPNUM	1*					
TYPPCS	1*					
TYP OCT	1*					
TYPTXT	1*					
\$\$ESCA	1*					
\$\$NEWT	1*					
\$\$SKIP	1*					
.EQUAT	1*					
.HEADE	1*					
.KT11	1*					
.SETUP	1*					
.SWRHI	1*					
.SACT1	1*					
.SAPT8	1*					
.SAPTH	1*					
.SAPTY	1*					
.SASTA	1*					
.SCATC	1*					
.SCMTA	1*					
.SDB20	1*					
.SDB20	1*					
.SDIV	1*					
.SEOP	1*					
.SERRO	1*					
.SERRT	1*					
.SMULT	1*					
.SPOWE	1*					
.SRAND	1*					
.SRODE	1*					
.SRDOC	1*					
.SREAD	1*					
.SF2AZ	1*					
.\$SAVE	1*					
.\$SB20	1*					
.\$SB20	1*					
.\$SCOP	1*					

.MAIN. MACY11 27(732) 01-OCT-76 11:05 PAGE 27
DOMA.P11 CROSS REFERENCE TABLE -- MACRO NAMES

.SSIZE	1*
.SSUFR	1*
.STRAP	1*
.STYPB	1*
.STYPD	1*
.STYPE	1*
.STYPO	1*
.S40CA	1*
.1170	1*

BCC	710														
BCE	695	835	849												
BEQ	218	225	233	257	267	284	293	309	316	324	348	358	375	384	400
	407	415	439	449	466	475	491	498	506	520	540	557	566	582	589
	597	621	631	648	657	679	689	723	730	741	754	766	769		
BMI	693	786	800	807	814	822	829	843							
BNE	704	831	845												
BPL	708	853	857												
BR	254	264	345	355	436	446	527	537	618	628	792				
BVC	706	833	847												
BVS	691														
CCC	686	825													
CLR	667	699	783	797	804	812	819	827	841	854					
CMP	217	224	232	256	266	283	292	308	315	323	347	357	374	383	399
	406	414	438	448	465	474	490	497	505	529	539	556	565	581	588
	596	620	630	647	656	678	722	729	740	753	765	768			
COM	861														
HALT	167	174	176	178	180	182	184	186	188	190	192	194	196	198	200
	202	204													
INC	852														
JMP	858														
JSR	211	216	223	231	238	244	252	263	302	307	314	322	329	335	343
	354	393	398	405	413	420	426	434	445	484	489	496	504	511	517
	525	536	575	580	587	595	602	608	616	627	716	721	728	737	761
	763	784	791	798	805	813	820	828	842	863	865	967	869		
MOV	210	215	222	229	230	237	243	250	251	261	262	273	274	280	281
	288	289	290	301	306	313	320	321	328	334	341	342	352	353	364
	365	371	372	379	380	381	392	397	404	411	412	419	425	432	433
	443	444	455	456	462	463	470	471	472	483	488	495	502	503	510
	516	523	524	534	535	546	547	553	554	561	562	563	574	579	586
	593	594	601	607	614	615	625	626	637	638	644	645	652	653	654
	668	669	675	676	683	684	685	700	701	715	720	727	733	734	735
	736	746	747	748	749	760	773	774	775	782	790	796	803	811	818
	826	840	855												
RTI	670	677	687	703											
RTS	275	282	291	366	373	382	457	464	473	548	555	564	639	646	655
	750	776	778	860	862	864	866	868	870						
SCC	702	839													
TST	785	799	806	821											
TSTB	856														
.ENABL	1														
.END	875														
.LIST	1														
.MACR	207														
.MACRO	1														
.NLIST	1														
.REM	1														
.REPT	173	209													

ERRORS DETECTED: 0
 DEFAULT GLOBALS GENERATED: 0

*, DOMA. SEQ/SOL/CRF/PAGNUM/NL: TOC=SYSMAC.CO, DOMA.P11

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DOMA.P11 CROSS REFERENCE TABLE -- PERMANENT SYMBOLS

RUN-TIME: 21 23 1 SECONDS
RUN-TIME RATIO: 304/47=6.4
CORE USED: 33K (65 PAGES)

