

# DECUS

## PROGRAM LIBRARY

DECUS NO.	8-400
TITLE	EXECUTE SLOW
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DATE	December 4, 1970
SOURCE LANGUAGE	PAL III

### ATTENTION

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# EXECUTE SLOW

DECUS Program Library Write-up

DECUS NO. 8-400

## PURPOSE:

The Execute Slow program executes the user's programs one instruction at a time. Before each instruction is executed, the LINK, ACCUMMULATOR, PROGRAM COUNTER, and INSTRUCTION are printed on the teletype. The printing causes the slow execution of the user's program.

This program differs from most trace programs in that it actually executes the user's instructions from the user's original core locations. This is accomplished by using the interrupt facility and the fact that the "ION" instruction does not take effect until one instruction following it has been completed. Since the trace program itself requires the interrupt, the user's program should not use the interrupt. The instruction "IOF" (when executed) will turn the interrupt off and stop the trace program.

## RUNNING THE EXECUTE SLOW PROGRAM:

1. Load the program into field zero only.
2. Set the Switch Register = 6600.
3. Press Load Address on the computer.
4. Press START, the program halts at 6602.
5. Set the Switch Register to the Starting Address of the program to be "executed slow."
6. Press CONTINUE.
7. The teletype will begin printing the  

<u>LINK</u>	<u>ACCUMULATOR</u>	<u>PROGRAM COUNTER</u>	<u>INSTRUCTION</u>
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8. The Switch Register set equal to zero will execute but not print subroutine instructions. (Note: subroutines with arguments will not turn print back on.)
9. A non-zero Switch Register will always print the line.
10. ALWAYS STOP THE TRACE BY HITTING ANY TELETYPE KEY.
11. Resume the execute slow by pressing CONTINUE.

Execute Slow Storage Requirements:

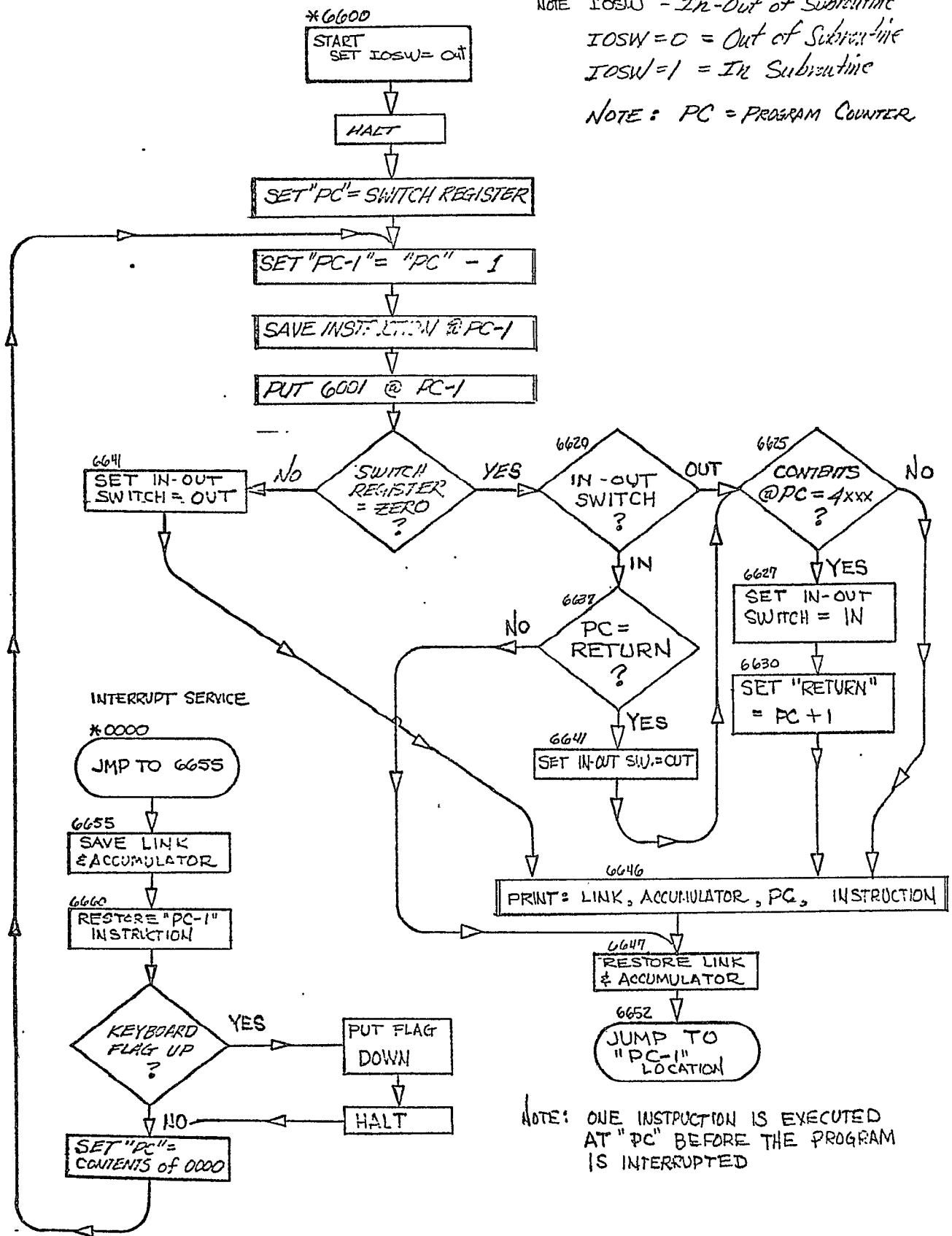
0001 - 0002  
6600 - 6777 (one page)

*"EXECUTE SLOW FLOW CHART*

DECEMBER 7, 1970

NOTE "IOSW" - In-Out of Subroutine  
 IOSW = 0 = Out of Subroutine  
 IOSW = 1 = In Subroutine

NOTE: PC = PROGRAM COUNTER



NOTE: ONE INSTRUCTION IS EXECUTED AT "PC" BEFORE THE PROGRAM IS INTERRUPTED

PAGE

"EXECUTE SLOW" OR "THE BARRETT TRACE"

017200	START, CAA, C12	40	5247	JMP E	100	4315	JMS PRINT4	140	5715	JMP I PRINT4
1	1367 DCA LOSW	41	5367	OUT, DCA IOSW	101	1773	TAD PC	141	7402	WORD, 7402
2	7402 HLT	42	5222	JMP B	102	4315	JMS PRINT4	142	7402	CHAR, 7402
3	7404 LAS	43			103	5673	JMP I PSEQ	143	0317	AND M0007
4	13373 RUN, DCA PC	44			104	7402	CRFS, 7402	144	1320	TAD C260
5	1373 TAD PC	45			105	4321	JMS CRLF	145	4361	JMS TYPE
6	1377 TAD MI	46	4273	PE, JMS PSEQ	106	1374	TAD SLINK	146	5742	JMP I CHARP
7	1372 DCA PC-1	47	1374	E, TAD SLINK	107	1350	TAD C260	147	0007	M0007, 0007
10	1772 TAD I PC-1	50	7119	CALL RAR	110	4361	JMS TYPE	150	0260	C260, 0260
11	1371 DCA PC-1MS	51	1375	TAD SAC	111	1314	TAD C240	151	7402	CRLF, 7402
12	1376 TAD ION	52	5772	JMP I PC-1	112	4321	JMS TYPE	152	1357	TAD CR
13	1372 DCA I PC-1	53			113	5704	JMP I CRFS	153	4361	JMS TYPE
14	7604 LAS	54			114	0240	C240, 240	154	1360	TAD LF
15	7640 SEA CLA	55	3375	INT, DCA SAC	115	7402	PRINT4, 7402	155	4361	JMS TYPE
16	5241 JMP OUT	56	7004	RAL	116	3311	DCA WORD	156	5751	JMP I CRLF
17	1367 TAD IOSW	57	3374	DCA SLINK	117	1341	TAD WORD	157	0215	CR, 215
20	7640 SEA CLA	60	1371	TAD PC-1MS	120	7004	RTL	160	0212	LF, 212
21	5234 JMP INTEST	61	3772	DCA I PC-1	121	7006	RTL	161	7402	TYPE, 7402
22	1773 B, TAD I PC	62	6031	KSF	122	4342	JMS CHARP	162	6041	TLS
23	0271 AND M7000	63	5260	JMP +3	123	1341	TAD WORD	163	6041	TSE
24	1272 TAD M1000	64	6032	KCC	124	7012	RTR	164	5363	JMP -1
25	7640 SEA CLA	65	7402	HLT	125	7012	RTR	165	7200	CLA
26	5246 JMP PE	66	1000	TAD 0000	126	7012	RTR	166	5741	JMP I TYPE
27	2367 HW, ISZ IOSW	67	5204	JMP RUN	127	4342	JMS CHARP	167	0000	IOSW, 0000
30	1373 TAD PC	70			130	1341	TAD WORD	170	6000	RETRN, 0000
31	7661 IAC	71	7000	M7000, 7000	131	7010	RAR	171		PC-1 INS
32	3370 DCA RETRN	72	4000	M4000, 4000	132	7012	ETR	172		PC-1
33	5246 JMP PE	73	7402	PSEQ, 7402	133	4342	JMS CHARP	173	7402	PC, 7402
34	1373 INTEST, TAD PC	74	4204	JMS CRFS	134	1341	TAD WORD	174	6000	SLINK, 0000
35	7041 CIA	75	1375	TAD SAC	135	4342	JMS CHARP	175	6000	SAC, 0000
36	1370 TAD RETRN	76	4315	JMS PRINT4	136	1314	TAD C240	176	6001	110N, 6001
37	7640 SEA CLA	77	1373	TAD PC	137	4361	JMS TYPE	177	7777	MI, 7777

6600

GARY BARRETT

DEC. 14, 1970

ALSO

0001/5602

0002/6655

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