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PROGRAM LIBRARY

DECUS NO.	8-380
TITLE	WATSNU
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SOURCE LANGUAGE	MACRO-8

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WATSNU

DECUS Program Library Write-up

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- Purpose: 1. To compare current core store and a binary tape without changing core.
2. To reload a binary tape and illustrate locations which are changed in the process.
- General: WATSNU has two primary uses: (1) it is used during debugging to highlight differences between current program status and the last binary program tape and (2) it is used in the event that a system failure requires a program reload in order to provide a trace of conditions at the time of failure.
- Equipment: PDP-8, 4K, ASR33, (H.S. Reader optional).
- Storage: 1 Page, nominally 7400 thru 7577, plus standard binary loader.
- Procedure: Load WATSNU with standard binary loader.
- Load address: 7401 for compare mode.
7400 for reload mode.
- Set switch register bit 0 for high speed or low speed loading per standard binary loading procedure.
- Load reader with binary tape to be compared/loaded.
- PRESS START
- Output: Output is comprised of one line of type where a location is (would be) changed by the loading process. The line shows the location, the current contents and the contents after (if) loading.
- Notes: WATSNU changes binary loader during execution and restores the loader when the load or comparison is complete.

ORIGIN=7616
 CHKSUM=7615
 /WATSNU
 /START AT 7400 FOR LOAD AND COMPARE
 /START AT 7401 FOR COMPARE ONLY
 *7400

7400	7300	WATSNU, CLA CLL		
7401	1377	TAD	(4727)	
7402	3776	DCA I	(7737)	
7403	1375	TAD	(4645)	
7404	3774	DCA I	(7677)	
		/BINARY LOADER HAS BEEN ALTERED		
7405	1373	TAD	(HEAD)	
7406	3306	DCA	ADD	
7407	1706	TAD I	ADD	
7410	7450	SNA		
7411	5772	JMP I	(7701)	
7412	4271	JMS	TYPE	/TYPE HEADER
7413	2306	ISZ	ADD	
7414	5207	JMP	.-5	
		*7420		
7420	0000	DO,	0	/FROM BIN LDR WITH WORD
7421	3305	DCA	NSTAT	/SAVE
7422	1771	TAD I	(ORIGIN)	
7423	3306	DCA	ADD	
7424	1706	TAD I	ADD	/GET WORD FROM CORE
7425	7041	CIA		
7426	1305	TAD	NSTAT	
7427	7650	SNA CLA		/TWO WORDS MATCH?
7430	5242	JMP	EXIT	/YES
7431	1306	TAD	ADD	
7432	4251	JMS	TYPE	/TYPE CORE ADD
7433	4277	JMS	SPACE	
7434	1706	TAD I	ADD	
7435	4251	JMS	TYPE	/TYPE OLD STATE
7436	4277	JMS	SPACE	
7437	1305	TAD	NSTAT	
7440	4251	JMS	TYPE	/TYPE NEW STATE
7441	4321	JMS	RETURN	
7442	7604	EXIT, LAS		
7443	0370	AND	(1)	/MASK LSB OF SW REG
7444	7640	SZA CLA		/LOAD?
7445	5620	JMP I	DO	/NO
7446	1305	TAD	NSTAT	/YES
7447	3706	DCA I	ADD	
7450	5620	JMP I	DO	/RETURN
7451	0000	TYPE, 0		
7452	7104	RAL CLL		
7453	3310	DCA	CHAR	
7454	1367	TAD	(-4)	
7455	3307	DCA	X	

7456	1310	A,	TAD	CHAR	
7457	7006		RTL		
7460	7004		RAL		
7461	3310		DCA	CHAR	
7462	1310		TAD	CHAR	
7463	0366		AND	(7)	
7464	1365		TAD	(260)	
7465	4271		JMS	TIPE	
7466	2307		ISZ	X	/LAST OCTAL DIGIT?
7467	5256		JMP	A	/NO
7470	5651		JMP I	TYPE	/RETURN
7471	0000	TIPE,	0		
7472	6046		TLS		
7473	6041		TSF		
7474	5273		JMP	.-1	
7475	7200		CLA		
7476	5671		JMP I	TIPE	
7477	0000	SPACE,	0		
7500	1364		TAD	(240)	
7501	4271		JMS	TIPE	
7502	1364		TAD	(240)	
7503	4271		JMS	TIPE	
7504	5677		JMP I	SPACE	
7505	0000	NSTAT,	0		
7506	0000	ADD,	0		
7507	0000	X,	0		
7510	0000	CHAR,	0		
		/			
		*7510			
7510	0000	ALDON,	0		
7511	1763		TAD I	(CHKSUM)	
7512	3271		DCA	TIPE	
7513	1362		TAD	(1215)	
7514	3774		DCA I	(7677)	
7515	1361		TAD	(3616)	
7516	3776		DCA I	(7737)	
		/BINARY	LOADER	RESTORED	
7517	1271		TAD	TIPE	/GET CHECKSUM
7520	5710		JMP I	ALDON	
		/			
7521	0000	RETURN,	0		
7522	1360		TAD	(215)	
7523	4271		JMS	TIPE	
7524	1357		TAD	(212)	
7525	4271		JMS	TIPE	
7526	5721		JMP I	RETURN	
7527	0215	HEAD,	215		
7530	0212		212		
7531	0301		"A		
7532	0304		"D		
7533	0304		"D		
7534	0240		240		

7535	0240	240
7536	0240	240
7537	0303	"C
7540	0317	"O
7541	0322	"R
7542	0305	"E
7543	0240	240
7544	0240	240
7545	0324	"T
7546	0301	"A
7547	0320	"P
7550	0305	"E
7551	0215	215
7552	0212	212
7553	0000	0
7557	0212	
7560	0215	
7561	3616	
7562	1215	
7563	7615	
7564	0240	
7565	0260	
7566	0007	
7567	7774	
7570	0001	
7571	7616	
7572	7701	
7573	7527	
7574	7677	
7575	4645	
7576	7737	
7577	4727	