

AD-A035 823

DARCOM INTERN TRAINING CENTER TEXARKANA TEX
COMPUTER AIDED COST ESTIMATION FOR PRODUCTION ENGINEERS.(U)
MAR 76 C G SCOTT

F/G 14/1

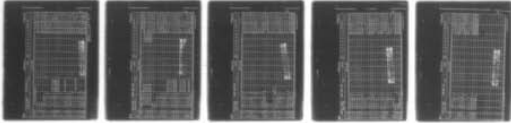
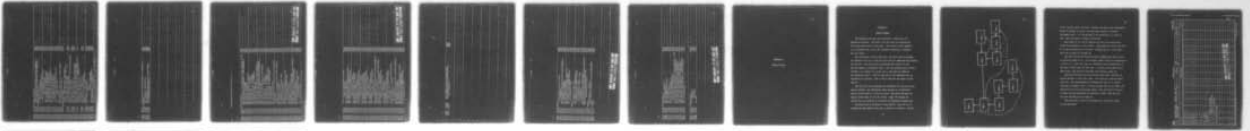
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00397	003970	PURCHASED-PART-CHECK.	CE002
00398	003980	WRITE PRINT-LINE FROM BLANK-LINE AFTER ADVANCING 1.	CE002
00399	003990	WRITE PRINT-LINE FROM BLANK-LINE AFTER ADVANCING 1.	CE002
00400	004000	PURCHASED-PART-CHECK-A.	CE002
00401	004010	IF INFO-CODE IS EQUAL TO **	CE002
00402	004020	THEY GO TO SUB-ASSEMBLY-CHECK.	CE002
00403	004030	MULTIPLY INFO-PUR-QUAN BY INFO-PUR-COST	CE002
00404	004040	GIVING MATERIAL-COST.	CE002
00405	004050	MOVE INFO-PUR-QUAN TO PURCHASED-QUAN.	CE002
00406	004060	MOVE INFO-PUR-COST TO PURCHASE-PRICE.	CE002
00407	004070	MOVE INFO-PUR-DES TO PUR-DESCRIP.	CE002
00408	004080	ADD MATERIAL-COST TO SUB-TOTAL-MATERIAL.	CE002
00409	004090	MOVE MATERIAL-COST TO PUR-MATERIAL.	CE002
00410	004100	IF LINE-COUNT IS GREATER THAN 52	CE002
00411	004110	THEY PERFORM WRITE-HEADING-1.	CE002
00412	004120	WRITE PRINT-LINE FROM PURCHASED-PART-LINE	CE002
00413	004130	AFTER ADVANCING 1.	CE002
00414	004140	ADD 1 TO REC-3.	CE002
00415	004150	READ NODE-FILE INVALID KEY GO TO READ-A-RECORD.	CE002
00416	004160	GO TO PURCHASED-PART-CHECK-A.	CE002
00417	004170	SUB-ASSEMBLY-CHECK.	CE002
00418	004180	DISPLAY , SUBASSEMBLY-CHECK UPON SYSOUT.	CE002
00419	004190	DISPLAY ***** INFO-CARD ***** UPON SYSOUT.	CE002
00420	004200	MOVE RECORD-KEY-ID TO SAVE-KEY.	CE002
00421	004210	MOVE INFO-SUB-QUAN TO SAVE-QUAN.	CE002
00422	004220	DISPLAY +++++ INFO-SUB-QUAN +++++ SAVE-QUAN UPON SYSOUT.	CE002
00423	004230	MOVE ZEROS TO REC-2, REC-3.	CE002
00424	004240	MOVE INFO-SUB-NODE TO REC-1.	CE002
00425	004250	READ NODE-FILE INVALID KEY GO TO READ-A-RECORD	CE002
00426	004260	DISPLAY ***** INFO-CARD ***** UPON SYSOUT.	CE002
00427	004270	MULTIPLY SAVE-QUAN BY INFO-COST GIVING MATERIAL-COST.	CE002
00428	004280	DISPLAY // , SAVE-QUAN , // , INFO-COST , // .	CE002
00429	004290	MATERIAL-COST UPON SYSOUT.	CE002
00430	004300	MOVE INFO-0-1 TO INFO-0-2.	CE002
00431	004310	MOVE SAVE-QUAN TO NUMBER-NEEDED.	CE002
00432	004320	DISPLAY , STORE-IT UPON SYSOUT.	CE002
00433	004330	MOVE STORE-IT TO D-ITEM-DES.	CE002
00434	004340	MOVE ZEROS TO D-IMP-NUMBER	CE002
00435	004350	D-TIME	CE002
00436	004360	D-RECURR, D-NONRECURR.	CE002
00437	004370	ADD MATERIAL-COST TO SUB-TOTAL-MATERIAL.	CE002
00438	004380	MOVE MATERIAL-COST TO U-MATERIAL.	CE002
00439	004390	DISPLAY , MATERIAL-COST , -----, SUB-TOTAL-MATERIAL , -----	CE002
00440	004400	D-MATERIAL UPON SYSOUT	CE002

00441	004320	WRITE PRINT-LINE FROM DATALINE AFTER ADVANCING 1.	CE002
00442	004330	EXTRA-ASSY.	CE002
00443	004340	MUVE SAVE-KEY TO RECORD-KEY-ID.	CE002
00444	004350	ADL 1 TO REC-3.	CE002
00445	004360	READ NUDE-FILE INVALID KEY GO TO READ-A-RECORD.	CE002
00446	004370	GO TO PURCHASED-PART-CHECK-A.	CE002

00449	004370	WRITE-HEADING-20	CE002
00449	004470	WRITE PRINT-LINE FROM ASTERISK-LINE AFTER ADVANCING 2 LINES.	CE002
00450	004410	WRITE PRINT-LINE FROM BLANK-LINE AFTER ADVANCING 1.	CE002
00451	004420	MOVE ZEROS TO I-OP-NUMBER.	CE002
00452	004430	MOVE SPACES TO U-ITEM-DES.	CE002
00453	004440	MOVE SUB-TOTAL-MATERIAL TO U-MATERIAL.	CE002
00454	004450	MOVE SUB-TOTAL-TIME TO P-STD-HRS.	CE002
00455	004460	MOVE SUB-TOTAL-TIME TO O-TIME.	CE002
00456	004470	MOVE SUB-TOTAL-REC-TOOL TO U-RECURR.	CE002
00457	004480	MOVE SUB-TOTAL-NON-REC TO U-NONRECURR.	CE002
00458	004490	MOVE P-TOTAL TO U-ITEM-DES.	CE002
00459	004500	WRITE PRINT-LINE FROM DATALINE AFTER ADVANCING 1.	CE002
00460	004510	WRITE PRINT-LINE FROM BLANK-LINE AFTER ADVANCING 1.	CE002
00461	004520	WRITE PRINT-LINE FROM ASTERISK-LINE AFTER ADVANCING 1.	CE002
00462	004530	MOVE ZEROS TO REC-2, REC-3.	CE002
00463	004540	READ HOLD-FILE INVALID KEY GO TO FINISH-REPORT.	CE002
00464	004550	MOVE INFO-ITEM-FEE TO P-FEE.	CE002
00465	004560	MOVE INFO-ITEM-G-A TO P-G-AND-A.	CE002
00466	004570	MOVE INFO-ITEM--SCRAP TO P-REWORK.	CE002
00467	004580	MOVE INFO-ITEM-L-OVER TO P-DIRECT-OVERHEAD.	CE002
00468	004590	MOVE INFO-ITEM-L-LABOR TO P-DIRECT-LABOR.	CE002
00469	004600	ADD 1 TO PAGE-NUMBER.	CE002
00470	004610	MOVE INFO-DES TO P-ITEM-DES.	CE002
00471	004620	MULTIPLY SUB-TOTAL-TIME BY INFO-ITEM-D-LABOR GIVING HOLDAREA.	CE002
00472	004630	MULTIPLY INFO BY INFO-ITEM--SCRAP GIVING P-REWORK.	CE002
00473	004640	MOVE HOLDAREA TO HOLDAREA-2.	CE002
00474	004650	MOVE ZEROS TO COST-LINE.	CE002
00475	004660	MOVE SUMMARY-LINE-1 TO SUMMARY-LINE.	CE002
00476	004670	MOVE PAGE-NUMBER TO PAGE-A.	CE002
00477	004680	MOVE PAGE-IT TO PUT-PAGE.	CE002
00478	004690	WRITE PRINT-LINE FROM SUMMARY-LINE-TOTAL AFTER ADVANCING TO TOP-OF-PAGE.	CE002
00479	004700	MOVE SPACES TO PUT-PAGE.	CE002
00480	004710	MOVE HOLDAREA TO COST-LINE.	CE002
00481	004720	MOVE SUMMARY-LINE-2 TO SUMMARY-LINE.	CE002
00482	004730	MULTIPLY HOLDAREA BY INFO-ITEM-D-OVER GIVING HOLDAREA.	CE002
00483	004740	MULTIPLY HOLDAREA BY HOLD GIVING HOLDAREA.	CE002
00484	004750	ADD HOLDAREA TO HOLDAREA-2.	CE002
00485	004760	WRITE PRINT-LINE FROM SUMMARY-LINE-TOTAL AFTER ADVANCING 3 LINES.	CE002
00486	004770	MOVE ZEROS TO COST-LINE.	CE002
00487	004780	MOVE INFO-ITEM--REAL TO P-REALIZATION.	CE002
00488	004790		CE002
00489	004800		CE002
00490	004810		CE002

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0492	034830	WRITE PRINT-LINE FROM SUMMARY-LINE-TOTAL	CE002
0493	034840	AFTER ADVANCING 1.	CE002
0494	034850	MOVE HOLDAREA TO COST-LINE.	CE002
0495	034860	MOVE INFO-ITEM-1-OVER TO P-DIRECT-OVERHEAD.	CE002
0496	034870	MOVE SUMMARY-LINE-4 TO SUMMARY-LINE.	CE002
0497	034880	WRITE PRINT-LINE FROM SUMMARY-LINE-TOTAL	CE002
0498	034900	AFTER ADVANCING 3 LINES.	CE002
0499	034910	MOVE SUB-TOTAL-MATERIAL TO COST-LINE.	CE002
0500	034920	ADD HOLDAREA-2 TO HOLDAREA.	CE002
0501	034930	MOVE SUMMARY-LINE-5 TO SUMMARY-LINE.	CE002
0502	034940	WRITE PRINT-LINE FROM SUMMARY-LINE-TOTAL	CE002
0503	034950	AFTER ADVANCING 3 LINES.	CE002
0504	034960	ADD SUB-TOTAL-REC-TOOL TO HOLDAREA.	CE002
0505	034970	MOVE SUMMARY-LINE-6 TO SUMMARY-LINE.	CE002
0506	034980	MOVE SUB-TOTAL-REC-TOOL TO COST-LINE.	CE002
0507	034990	WRITE PRINT-LINE FROM SUMMARY-LINE-TOTAL	CE002
0508	035000	AFTER ADVANCING 3 LINES.	CE002
0509	035010	MOVE HOLDAREA TO COST-LINE.	CE002
0510	035020	MOVE SUMMARY-LINE-10 TO SUMMARY-LINE.	CE002
0511	035030	WRITE PRINT-LINE FROM SUMMARY-LINE-TOTAL	CE002
0512	035040	AFTER ADVANCING 1.	CE002
0513	035050	MULTIPLY HOLDAREA BY INFO-ITEM--SCRAP GIVING HOLDAREA-2.	CE002
0514	035060	MOVE HOLDAREA-2 TO COST-LINE	CE002
0515	035070	COMPUTE P-DIRECT-OVERHEAD = 100 * INFO-ITEM-D-OVER.	CE002
0516	035080	MOVE SUMMARY-LINE-7 TO SUMMARY-LINE.	CE002
0517	035090	WRITE PRINT-LINE FROM SUMMARY-LINE-TOTAL	CE002
0518	035100	AFTER ADVANCING 3 LINES.	CE002
0519	035110	ADD HOLDAREA-2 TO HOLDAREA.	CE002
0520	035120	MOVE HOLDAREA TO COST-LINE.	CE002
0521	035130	MOVE SUMMARY-LINE-10 TO SUMMARY-LINE.	CE002
0522	035140	WRITE PRINT-LINE FROM SUMMARY-LINE-TOTAL	CE002
0523	035150	AFTER ADVANCING 1.	CE002
0524	035160	COMPUTE P-REWORK = 100 * INFO-ITEM--REALP.	CE002
0525	035170	IF INFO-ITEM-G-A EQUAL TO ZERO	CE002
0526	035180	GO TO HEAD-2-A.	CE002
0527	035190	MULTIPLY HOLDAREA BY INFO-ITEM-G-A GIVING HOLDAREA-2.	CE002
0528	035200	ADD HOLDAREA-2 TO HOLDAREA.	CE002
0529	035210	MOVE HOLDAREA-2 TO COST-LINE	CE002
0530	035220	MULTIPLY 100 BY INFO-ITEM-G-A GIVING P-G-AND-A.	CE002
0531	035230	MOVE SUMMARY-LINE-8 TO SUMMARY-LINE.	CE002
0532	035240	WRITE PRINT-LINE FROM SUMMARY-LINE-TOTAL	CE002
0533	035250	AFTER ADVANCING 3 LINES.	CE002
0534	035260		CE002

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00536
00537
00538

005270
005280
005290

MCVE SUMMARY-LINE-10 TO SUMMARY-LINE.
WRITE PRINT-LINE FROM SUMMARY-LINE-TOTAL
• AFTER ADVANCING I.

CE002
CE002
CE002

00540	HEAD-2-A.	CE002
00541	IF INFO-ITEM-FEE IS EQUAL TO ZERO	CE002
00542	GO TO HEAD-2-B.	CE002
00543	MULTIPLY HOLDAREA BY INFO-ITEM-FEE GIVING HOLDAREA-2.	CE002
00544	ADD HOLDAREA-2 TO HOLDAREA.	CE002
00545	MOVE HOLDAREA-2 TO COST-LINE.	CE002
00546	MULTIPLY IJO BY INFO-ITEM-FEE GIVING P-FEE.	CE002
00547	MOVE SUMMARY-LINE-9 TO SUMMARY-LINE.	CE002
00548	WRITE PRINT-LINE FROM SUMMARY-LINE-TOTAL	CE002
00549	AFTER ADVANCING 3 LINES.	CE002
00550	HEAD-2-H.	CE002
00551	MOVE HOLDAREA TO COST-LINE.	CE002
00552	MOVE SUMMARY-LINE-11 TO SUMMARY-LINE.	CE002
00553	WRITE PRINT-LINE FROM SUMMARY-LINE-TOTAL	CE002
00554	AFTER ADVANCING 3 LINES.	CE002
00555	IF SUB-TOTAL-NOI-REC IS EQUAL TO ZERO	CE002
00556	GO TO HEAD-2-C.	CE002
00557	MOVE SUMMARY-LINE-12 TO SUMMARY-LINE.	CE002
00558	MULTIPLY SUB-TOTAL-NOI-REC BY 1000.0 GIVING COST-LINE.	CE002
00559	WRITE PRINT-LINE FROM SUMMARY-LINE-TOTAL	CE002
00560	AFTER ADVANCING 5 LINES.	CE002
00561	HEAD-2-C.	CE002
00562	MOVE HOLDAREA TO INFO-COST.	CE002
00563	WRITE INFO-CARD INVALID KEY GO TO FINISH-REPORT.	CE002
00564	P-K-EXIT.	CE002
00565	EXIT.	CE002

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00567	005580	WRITE-HEADING-1.	CE002
00568	005590	MUVE SAME--HEAD TO DESCRIP-1.	CE002
00569	005600	ADD 1 TO PAGE-NUMBER	CE002
00570	005610	MOVE PAGE-NUMBER TO PAGE-NUM.	CE002
00571	005620	ADD 1 TO SHEET-NUM.	CE002
00572	005630	MOVE SHEET-NUM TO P-SHEET.	CE002
00573	005640	WRITE PRINT-LINE FROM HEADING-1	CE002
00574	005650	AFTER ADVANCING TO-TOP-OF-PAGE.	CE002
00575	005660	WRITE PRINT-LINE FROM ASTERISK-LINE AFTER ADVANCING 2 LINES.	CE002
00576	005670	WRITE PRINT-LINE FROM BLANK-LINE AFTER ADVANCING 1.	CE002
00577	005680	WRITE PRINT-LINE FROM HEADING-2 AFTER ADVANCING 1.	CE002
00578	005690	WRITE PRINT-LINE FROM HEADING-3 AFTER ADVANCING 1.	CE002
00579	005700	WRITE PRINT-LINE FROM HEADING-4 AFTER ADVANCING 1.	CE002
00580	005710	WRITE PRINT-LINE FROM BLANK-LINE AFTER ADVANCING 1.	CE002
00581	005720	WRITE PRINT-LINE FROM ASTERISK-LINE AFTER ADVANCING 1.	CE002
00582	005730	MOVE 12 TO LINE-COUNT.	CE002
00584	005750	FINISH-REPORT-1.	CE002
00585	005760	CLUSE TREE-FILE.	CE002
00586	005770	NODE-FILE.	CE002
00587	005780	PRINT-FILE.	CE002
00588	005790	STOP RUN.	CE002

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APPENDIX D

Sample Problem

APPENDIX D

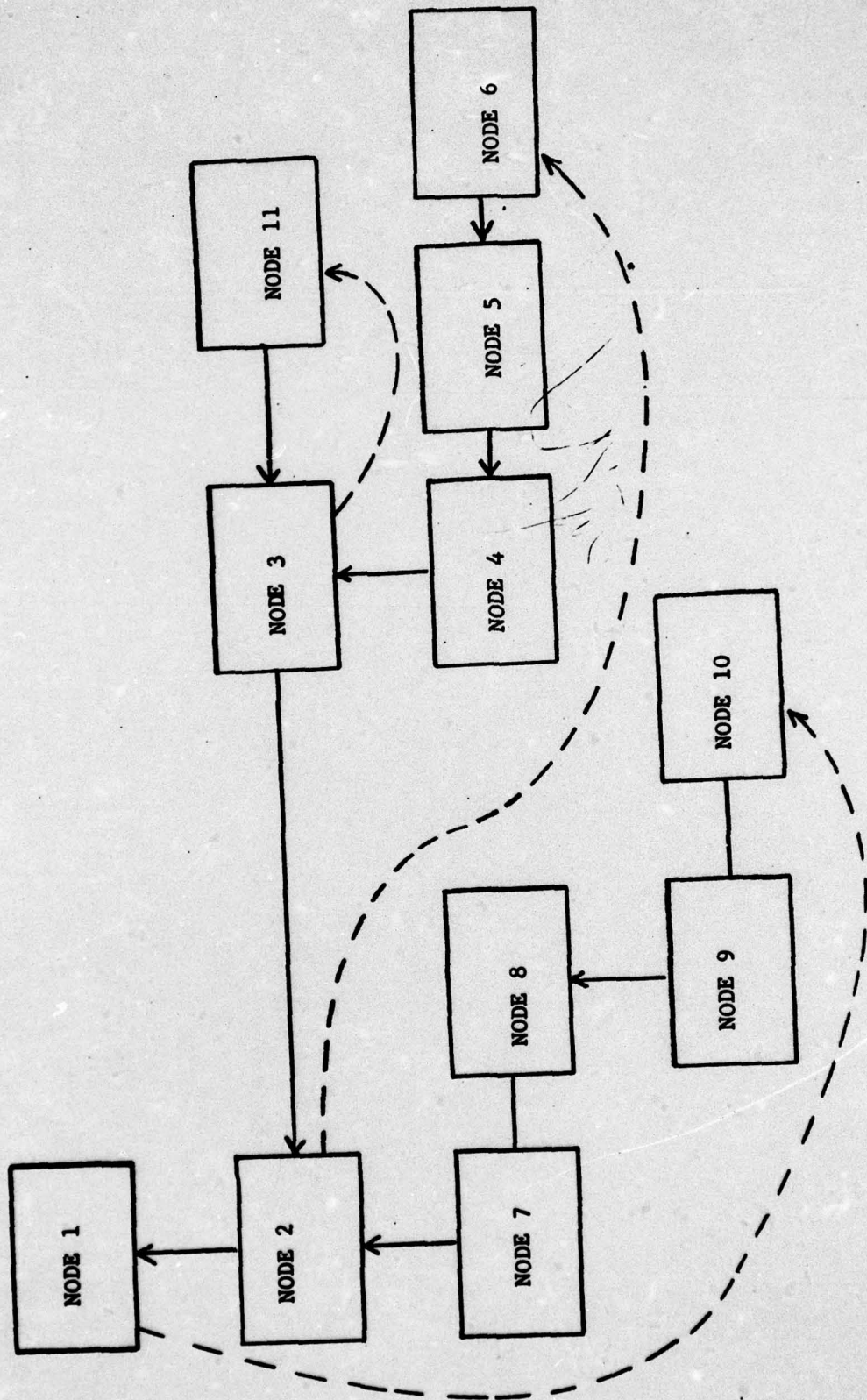
SAMPLE PROBLEM

The diagram on the next page represents a binary tree of a hypothetical product. The tree is the end result of applying the rules laid down earlier in the paper. The purpose of this appendix is to illustrate how to code the information necessary to generate the cost report.

Once the binary tree has been built, the first step in building the necessary files is to code the first data set comprising the pointers for the tree. The first step in performing this task is to list the node numbers in sequential order. Next the pointers must be built. If there is no pointer of a given type, a zero must be placed in the appropriate field. Refer to page 100 for the completed data set containing the pointers. Each of these cards has the format of Data Card #5.

Next the data file containing the information for the cost report must be created. The information which pertains to an individual node is written down on a series of cards. The cards used have the format of Data Cards #1, #2, #3, and #4. Pages 101 through 105 contain the data necessary to calculate the hypothetical product cost.

The first card in the group is Data Card #1. This card is to contain the node number of the node it refers to in field 2. Fields



3 and 4 contain zeros, and field 7 contains the name of the subassembly. Fields 10 through 14 contain the percentages needed to calculate the summary sheet. If a percentage is not applicable or is equal to zero, then zeros must be placed in the field.

Data Cards #2, #3, and #4 comprise the rest of the cards which relate the information to the product. These cards all follow Data Card #1 in the representation of the node. Examples of how to code these cards are on pages 101 through 105.

Data Cards #3 and #4 should be placed following Data Card #1 with an operation number of 01. The statement number should be incremented by 1 from 0 to 9. This will place all subassembly and purchased parts at the start of the report for this node. If there are more than ten of these cards, they should be continued with operation number 02.

Once the data cards for each node have been coded, they must be placed together to form a data deck. This deck will form the second data file. The card immediately preceding this deck is to contain asterisks in columns 1 and 2. If this asterisk card is not there, the second file will not be correctly loaded. Onto the front of this set of cards the deck containing the pointers is added. The deck will now look like Figure 4.6 on page 42.

This data deck is then to be executed and a final cost report will be generated.

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FORTRAN Coding Form

FORM NO.	DATE	PACKING INSTRUCTIONS	GRAPHIC PUNCH	TABLE	66
00001-002	DATA SET #2				
JOHN DOE					

FORTRAN STATEMENT		MACHINE	
LINE NO.	STATEMENT	NO.	CHARACTER
09000	SUBRASSY 9	10100280	150600
09001	OPERATION 1	001300002	00000000
09002	OPERATION 2	00400000	0111001
09030	OPERATION 3	00080000	1111000
10000	SUBRASSY 10	000005	75200600
10010	OPERATION 1	00100000	50000000
10020	OPERATION 2	0100111	0010001
10030	OPERATION 3	0200111	0000000
11000	SUBRASSY 11	104010751	505000
11010	OPERATION 1	01330005	00000005
11020	OPERATION 2	01000004	50000004
11030	OPERATION 3	02330000	50000000

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Number of forms per job may vary