

# PROGRAM ABSTRACT COVER SHEET

① User Group: FOCUS  VIM  (INCOSL )

Please complete this form according to the instructions on the reverse side

<p>② Contributing Organization <u>CONTROL DATA CORPORATION</u></p> <p>Installation Name <u>BETHESDA, MARYLAND</u></p> <p>City and State</p>	<p>③ Author Identification <u>R. W. W. McCRANEY</u></p> <p>Programmer/Submitter (up to 19 characters)</p> <p>Revisor</p>																										
<p>④ Catalog Identification</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 25%; text-align: center;"><u>N 2</u></td> <td style="border: 1px solid black; width: 25%; text-align: center;"><u>CDG</u></td> <td style="border: 1px solid black; width: 25%; text-align: center;"><u>SYSDUMP</u></td> <td style="border: 1px solid black; width: 25%; text-align: center;"><u>121</u></td> </tr> <tr> <td style="font-size: small;">Cl. Code</td> <td style="font-size: small;">Org. Code</td> <td style="font-size: small;">Program Name</td> <td style="font-size: small;">Rev.</td> </tr> </table>	<u>N 2</u>	<u>CDG</u>	<u>SYSDUMP</u>	<u>121</u>	Cl. Code	Org. Code	Program Name	Rev.	<p>⑤ Operating System and Version <u>SC/PE 3.3/3.4</u></p>																		
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<p>⑧ Descriptive Title (up to 56 Characters Including Blanks) <u>SYSDUMP V20 SC/PE 3.3/3.4 DEAD START DUMP ANALYZER</u></p>																											
<p>⑨ Program Materials Submitted</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Write-Up</td> <td style="width: 10%; text-align: center;"><u>10</u></td> <td style="width: 20%;">Source Record</td> <td style="width: 10%;"></td> <td style="width: 10%;">Source Medium</td> <td style="width: 10%;"></td> <td style="width: 10%;">MT <input checked="" type="checkbox"/></td> <td style="width: 10%;">IF <input type="checkbox"/></td> <td style="width: 10%;">MT <input type="checkbox"/></td> <td style="width: 10%;">or PT <input type="checkbox"/></td> <td style="width: 10%;">No.</td> <td style="width: 10%;">Tr/L</td> <td style="width: 10%;">Length</td> </tr> <tr> <td>Page Ct</td> <td></td> <td>Count</td> <td></td> <td>PT</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p>Other (up to 44 characters) <u>UPDATE PROGRAM LIBRARY (40 BLOCKS IN LENGTH)</u></p>		Write-Up	<u>10</u>	Source Record		Source Medium		MT <input checked="" type="checkbox"/>	IF <input type="checkbox"/>	MT <input type="checkbox"/>	or PT <input type="checkbox"/>	No.	Tr/L	Length	Page Ct		Count		PT								
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<p>⑬ Entry Point Names <u>SYSDUMP (MAIN OVERLAY), PAR, PPL/OK (PRIMARY OVERLAYS)</u></p>																											
<p>⑭ Original/Revised Program Abstract</p> <p><u>THE FORMAT AND ANALYZE DEAD START DUMP TAPES FROM SC/PE 3.3 AND HIGHER SYSTEMS. REDUCES ANALYSIS TIME FOR DUMPS CONSIDERABLY. FEATURES PPO BIT PATTERN SEARCH, AND TRACE FOR RETURN DUMPS. FORMATS CMR TABLES INTO LOGICAL DISPLAY BLOCKS, SUCH AS FNT'S ATTACHED TO A CONTROL POINT, THE CONTROL POINT'S DAYFILE, AND CONTROL POINT AREA. FEATURES VERB DRIVEN INPUT ROUTINE. THE INTERCOM BUFFER AREA FEATURES USER TABLE ANALYSIS.</u></p>																											
<p>⑮ Nature of Revision <input type="checkbox"/> Proprietary Ordering Information <input type="checkbox"/> Additional Information <input checked="" type="checkbox"/></p> <p><u>SUBMITTER WILL ACT AS COORDINATOR FOR NEW FEATURES, CORRECTIVE CODE SUBMITTED, SUBMITTER WILL NOT CREATE CORRECTIVE CODE NORMALLY.</u></p>																											

FEBRUARY 15, 1974

TO: ~~R. A. WILLIAMS~~ SVLO16

FROM: R. W. MCCRANEY BETHDQ EXT. 407

CC: W. J. CORNWELL BETHDQ

SUBJECT: SYSDUMP V2.0

The attached listing is a copy of the first five pages of the object code listing of SYSDUMP V2.0. The program was written in FORTRAN under FTN Version 3.

Dependent on the PSR level of the compiler, OPT=2 compilations may give bad binaries. Therefore, I suggest initial trial runs to be compiled at OPT=1.

I noticed, embarrassing enough, that the documentation fails to note the input tape {the deadstart dump tape} is referenced as TAPE1.

The following job stream will get the user of SYSDUMP off the ground:

JOB,CM75000,MT2,T400.	SYSDUMP V2.0	100
REQUEST OLDPL,E.	SYSDUMP PL	110
UPDATE,Q.		120
FTN,I=COMPILE,OPT=1,R=3.		130
REQUEST TAPE1,E.	DEADSTART DUMP TAPE	140
LGO.		150
?		
B EOR		160
?		
*/		170
*/		180
*C SYSDUMP		190
?		
B EOR		200
?		
COMMENT.	ADD ANY INPUT PARAMETERS	210
COMMENT.		220
COMMENT.	IN THIS RECORD...	230
?		
B EOR		240
?		
B		
?		

If compiling for SCOPE 3.4, then the user may replace card number 180 with:

\*DEFINE SCP34 180

Other options selected at UPDATE time are:

DECDUMP, an octal/alphanumeric dump is produced for relative dumps. Warning - this option is very slow during execution.

R. A. Williams

2

February 15, 1974

ONEFILE, binaries are produced on one file for use by OVERLAY.

INTERCOM2, Intercom V2 code is assembled {this option was never checked out}

In all cases, the option is triggered via the "`*DEFINE,id`" UPDATE directive.

Please note that I only plan to add new features to SYSDUMP as I require them. However, if any user wishes to provide new mods that are checked out, I will be happy to maintain a base-line program library, which in turn will be provided to the VIM library on a timely basis.

/kff

Attachments

JANUARY 25, 1974

TO: S. J. GARDNER SVLOPS  
FROM: ~~R. J. MCGRANEY~~ BETHDQ EXT. 407  
CC: D. D. COFFEY HVLDSO W. A. RUEFER RKVPKE  
W. J. CORNWELL BETHDQ W. W. SEDR BETHDQ  
J. M. DONACHY HMPNG D. E. STAHL BETHDQ  
T. L. ROZANSKI DTNFAC

SUBJECT: SYSDUMP V 2.0

SYSDUMP is a FORTRAN EXTENDED program intended to aid the analysis of deadstart dumps from SCOPE 3.3 and later systems. As you are aware, the timely analysis of a system problem is very important, and SYSDUMP is an attempt to reduce the amount of time required to identify the problem.

This is done by using the deadstart dump tape produced by SCOPE and formatting the data into a more readable fashion as well as limited analysis of certain pointers and data contained in the dump. The output produced by SYSDUMP is a composite of the more critical CMR tables, the RBT chains, PPU data summaries, and the PPU dumps.

The program is currently being used at over six installations with a gratify reduction in analyst time per system problem. We estimate that the average reduction in analysis time is approaching 50%.

A verb driven input section allows the control of what protions of the dump are actually printed and provides the capability to mask all PPUs for a 5-byte bit pattern, which aids in the detection of erroneus writes by a PPU to central memory. Also certain CMR pointers, such as the fwa of the FNT, may be inputed via the input file rather than gained from the deadstart tape or the default values assumed by SYSDUMP.

SYSDUMP was recently {January, 1974} added to the VIM library, and thus is available for use by any member of VIM.

A brief description of the output from SYSDUMP follows:

Central Memory Section:

- Low CMR Pointers
- Channel Status Table
- PP Staus Words
- Control Point Summary {JOB NAME, RA, FL, STATUS, etc.}
- PP Communications Area
- Equipment Status Table
- Intercom Multiplexor Table
- Device Activity Table
- Request Stack
- RBR Header Word Pairs
- Device Status Table
- APF Table

Intercom Pointer/Buffer Area {optional, also you may list only user tables}

RBT Chain

And For Each Active Control Point:

Dayfile Buffer

Files Attached To The Control Point

Control Point Area {with display of last dayfile and control card buffer}

Relative Dump {optional}

The PPU Section Produces:

List Of Last Overlays Loaded At Normal Load Addresses

Last Call To PP Resident Entry Points

List Of Contents Of The Direct Cells.

List Of Contents Of The Communications Area

List Of All Return Jumps Made With A Flag For Non-Standard Returns

List Of All Locations Containing A 5-Byte Pattern

Complete PPU Dump {optional}

If SYSDUMP determines a CMR word has been violated, i.e. Word 0 is non-zero, then the PPU masking for the 5-byte pattern is automatically enabled.

The verb driven input routine allows the specification of type of dumps to be listed, areas of central memory to be listed, and override of pointers in the dump that SYSDUMP uses to locate certain tables, as well as an override of the selection of the masking pattern.

SYSDUMP was written originally for SCOPE 3.1.6 and does have the capability to produce dumps for SCOPE 3.1.6 and SCOPE 3.2 if modified {slightly}. SCOPE 3.3 is the default system assumed, and SCOPE 3.4 binaries are obtained by the inclusion of an \*DEFINE, SCP34 card at UPDATE time.

We who have used SYSDUMP are very convinced that it is an analysis tool that can save the field analyst much time and grief.

Please mention its existence in the PSI EXCERPTS. I would like to see it made part of the installation and maintenance facilities provided with each future SCOPE release.

Thank you.

/kff

Attachment

OVERLAY(SYSDUMP,C,2)  
 PROGRAM SYSDUMP(INPUT=101R,OUTPUT=701R,TAPE1=1001R,TAPE2=401R,  
 TAPE3=301R,TAPE4=301R,TAPE60=INPUT )

SYSDUMP 3  
 SYSDUMP 4  
 SYSDUMP 5  
 SYSDUMP 6  
 SYSDUMP 7  
 SYSDUMP 8  
 VER=2PG 1  
 SYSDUMP 10  
 SYSDUMP 11  
 SYSDUMP 12  
 SYSDUMP 13  
 SYSDUMP 14  
 SYSDUMP 15  
 SYSDUMP 16  
 SYSDUMP 17  
 SYSDUMP 18  
 SYSDUMP 19  
 SYSDUMP 20  
 SYSDUMP 21  
 SYSDUMP 22  
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 SYSDUMP 50  
 SYSDUMP 51  
 SYSDUMP 52  
 SYSDUMP 53  
 SYSDUMP 54  
 SYSDUMP 55  
 SYSDUMP 56  
 SYSDUMP 57

SYSDUMP V 2 . 0

AUTHOR: R. S. GUMMER, DATA CENTERS, CONTROL DATA CORP.

MODIFIED: S. HARKAVY, CYBER-70 SDD FIELD SUPPORT, CDC

MODIFIED: R. W. MCCRANEY, FSC, WASHINGTON REGION, CDC

THIS PROGRAM WAS ORIGINALLY DEVELOPED FOR SCOPE 3.2 BUT IS WRITTEN SUCH THAT CONVERSION TO FUTURE SCOPE SYSTEMS SHOULD BE RELATIVELY SIMPLE. THE FOLLOWING ITEMS SHOULD BE REVIEWED DURING ANY CONVERSION ATTEMPT.

1. IN \*SYSDUMP\* ITSELF, THE SECTION WHICH DEFINES THE VARIOUS INSTALLATION PARAMETERS SHOULD BE REVIEWED.
2. THE SUBROUTINE \*LOWCORE\* CAN BE MODIFIED TO SAVE ANY ADDITIONAL LOW CORE POINTERS. ALSO BEWARE OF POINTER CHANGES.
3. THE ARRAY \*MTR\* IN SUBROUTINE \*PPSTAT\* MUST BE CHANGED TO REFLECT ANY NEW (M.\*\*\*) MONITOR CALLS.
4. THE \*TABLE\* SUBROUTINE IS FAIR GAME FOR ANYONE WITH A DESIRE TO INCLUDE NEW ONES. THE AUTHOR FELT, DURING INTEGRATION INTO SCOPE 3.3, THAT THE ABSOLUTE DUMP CAPABILITY PROVIDES THE TOOL TO DUMP MOST OF THE TABLES AND THAT THE CONSTANT CHANGING OF FORMAT AND CONTENT WAS A SUFFICIENT DETERRENT TO IMPLEMENTING THE 3.3 TABLE DUMP. TO INCLUDE A NEW TABLE, ONE MUST MODIFY \*LOWCORE\* TO SAVE THE POINTERS, AND THEN ADD SOME STUFF TO \*TABLES\* TO PROCESS THE DATA.
5. THE TABLE \*PPRES\* IN \*PPLOCK\* SUBROUTINE MUST BE MODIFIED TO REFLECT CHANGES IN PP RESIDENT. NOTE ALSO THERE IS A HARD-CODED CC-LCOP FOR THE LENGTH OF THE \*PPRES\* ARRAY WHICH MUST BE CHANGED.
6. VARIOUS PORTIONS OF THE COMPASS UTILITY ROUTINE MAY REQUIRE MODIFICATION. CALLS ARE MADE DIRECTLY TO PP ROUTINES TO AVOID LOADING \*CPC\*. THE VARIOUS ENTRY POINTS MERELY PERFORM \*DECCDES\* MUCH FASTER THAN KRACKER AND NEED BE CHANGED ONLY IF THE TAPE FORMAT CHANGES.
7. THE MACRO \*UNIVREPT\* MAY REQUIRE CHANGING IF RUN/FTN EVER GET TOGETHER ON THEIR CALLING SEQUENCE. THE MACRO PROVIDES OBJECT TIME DETECTION OF WHO CALLED AND SETS UP A STANDARD CALLING SEQUENCE DEFINED BY THE USER.

IF USING THIS PROGRAM FOR DEAD-START DUMPS FROM SCOPE 3.3,

```

C      THEN THE SOURCE MUST BE OBTAINED FROM THE PROGRAM LIBRARY WITH- SYSDCMP 58
C      OUT DEFINING TO =UPDATE= THE SYMBOL =SCP34=. THIS WILL ALLOW SYSDCMP 59
C      SOURCE STATEMENTS FOR SCOPE 3.3 TO BE PLACED ON THE COMFILE SYSDCMP 60
C      FILE. IF USING FOR SCOPE 3.4, THEN YOU MUST DEFINE THE ABOVE SYSDCMP 61
60 C      SYMBOL DURING THE UPDATE RUN. INTERCOM V3.0 AND V4.1 ARE THE SYSDCMP 62
C      DEFAULT INTERCOM VERSIONS. IF USING V2.0, DEFINE =INTCOM2= FOR SYSDCMP 63
C      THE UPDATE RUN. SYSDCMP 64
C      SYSDCMP 65
C      SYSDCMP 66
65 C      SYSDCMP DEFAULTS THE ABSOLUTE BINARIES TO THREE FILES. THE
C      LEVEL ZERO OVERLAY TO =SYSDCMP=, AND THE PRIMARY OVERLAYS TO
C      =PAR= AND =PPLCOK=. IF YOU WISH ALL BINARIES ON THE FILE
C      =SYSDCMP=, DEFINE =CNEFILE= AT UPDATE TIME. SYSDCMP 67
C      SYSDCMP 68
C      SYSDCMP 69
C      SYSDCMP 70
C      ***** SYSDCMP 71
C      ***** SYSDCMP 72
70 C      * THIS PROGRAM EXTRACTS SELECTED INFORMATION FROM A SCOPE
C      * DEAC START DUMP TAPE. THE TAPE SHOULD CONTAIN ALL OF CENTRAL
C      * MEMORY FROM ABSOLUTE WORD ZERO TO THE LWA OF CENTRAL, FOLLOWED
C      * BY PP DUMPS. IF DUMPING SCOPE 3.4, THE EXCHANGE PACKAGE DUMPS
C      * MAY BE PLACED ANY WHERE ON THE TAPE, AND ECS DUMPS SHOULD BE
75 C      * LAST. THE DUMP TAPE IS READ ONCE, AND THE INFORMATION IS
C      * FORMATTED IN A MODE DESIGNED TO EASE ANALYSIS, AND THEREFORE,
C      * REDUCE THE TIME SPENT PER INDIVIDUAL DUMP. SYSDCMP 73
C      * SYSDCMP 74
C      * SYSDCMP 75
C      * SYSDCMP 76
C      * SYSDCMP 77
C      * SYSDCMP 78
C      * SYSDCMP 79
C      * SYSDCMP 80
C      * SYSDCMP 81
80 C      * THERE IS SOME VALIDITY CHECKING PERFORMED BY SYSDCMP, ESPECIALLY
C      * IN THE ROUTINE =LCWCORE=. THE VALIDITY OF CERTAIN CMR POINTERS
C      * IS CHECKED AS TO WHETHER OR NOT THEY ARE PRESENT. IF NOT, THEN
C      * DEFAULT VALUES ARE USED. THE DATA STATEMENT IN ROUTINE =LOWCORE=
C      * IS USED TO CONTROL THESE DEFAULT VALUES. SYSDCMP 82
C      * SYSDCMP 83
C      * SYSDCMP 84
C      * SYSDCMP 85
85 C      * IF A CMR VALUE IS FOULED-UP, THEN YOU MAY OVER-RIDE IT VIA THE
C      * =DEF= VERB ( SEE ROUTINE =PAR=, WHICH IS AT THE END OF THE LISTING
C      * OF THE PROGRAM. ) SYSDCMP 86
C      * SYSDCMP 87
C      * SYSDCMP 88
C      * SYSDCMP 89
C      * SYSDCMP 90
C      * SYSDCMP 91
90 C      * SEVERAL OPTIONS ARE PRESENT TO THE USER. THESE OPTIONS ARE
C      * ENABLED/DISABLED VIA THE APPROPRIATE INPUT VERB. THE INPUT
C      * ROUTINE IS =PAR=, AND A COMPLETE LIST OF THE INPUT OPTIONS AND
C      * THEIR USE IS PRESENT IN THE COMMENTS THERE. NOTE THAT ONE OPTION
C      * IS THE =MASK= VERB, WHICH ALLOWS THE SEARCH OF ALL THE PP MEMORIES
95 C      * FOR A PARTICULAR BIT PATTERN. THIS OPTION, IF NOT ENABLED VIA THE
C      * INPUT STREAM, WILL AUTOMATICALLY BE ENABLED FOR =CMRBAC= CONDITION
C      * AS DETERMINE BY ROUTINE =LOWCORE=. SYSDCMP 92
C      * SYSDCMP 93
C      * SYSDCMP 94
C      * SYSDCMP 95
C      * SYSDCMP 96
C      * SYSDCMP 97
C      * SYSDCMP 98
C      * SYSDCMP 99
C      * SYSDCMP 100
C      * EXPLAIN 2
100 C      * EXPLAIN 3
C      * EXPLAIN 4
C      * EXPLAIN 5
C      * EXPLAIN 6
C      * EXPLAIN 7
105 C      * EXPLAIN 8
C      * EXPLAIN 9
C      * EXPLAIN 10
C      * EXPLAIN 11
C      * EXPLAIN 12
110 C      * EXPLAIN 13

```

S Y S D U M P F R E E F O R M I N P U T

INSTRUCTIONS AND EXAMPLES.

			EXPLAIN	14
			EXPLAIN	15
			EXPLAIN	16
			EXPLAIN	17
115	C	THIS ROUTINE PROVIDES A FREE FORM INPUT CAPABILITY FOR SYSDUMP.	EXPLAIN	18
	C	INPUT IS ASSUMED TO BE PLACED ANY WHERE UPON THE CARD, WITH THE	EXPLAIN	19
	C	RESTRICTION OF ONE VERB PER CARD, AND NO OVERFLOW CAPABILITY.	EXPLAIN	20
	C	THE VERBS ARE DESCRIBED BELCW, WITH SUB-VERBS AND/OR PARAMETERS	EXPLAIN	21
	C	THAT ARE LEGAL FOR THE PARTICULAR VERB INDICATED.	EXPLAIN	22
120	C		EXPLAIN	23
	C	LEADING BLANKS PRIOR TO THE VERB ARE IGNORED. THE FIRST BLANK	EXPLAIN	24
	C	ENCOUNTERED AFTER FINDING THE VERB IS CONSIDERED A DELIMITER,	EXPLAIN	25
	C	AND ALL OTHER BLANKS ARE IGNORED. A PERIOD ENDS THE SCAN FOR	EXPLAIN	26
	C	EACH CARD, AS DOES THE CLOSE PARATHESIS ( ) ). WHERE DELIMITER	EXPLAIN	27
125	C	CHARACTERS ARE ALLOWED, ONLY THE DOLLAR (\$), SLASH(/), AND THE	EXPLAIN	28
	C	ASTERICK (*) ARE LEGAL. THE COMMA (,) IS A LOGICAL SEPERATOR	EXPLAIN	29
	C	BETWEEN PARAMETERS. THE EQUAL SIGN ASSOCIATES OCTAL VALUES TO	EXPLAIN	30
	C	SUB-VERBS. THEREFORE, THE INFUT FORM IS MUCH LIKF THAT OF	EXPLAIN	31
	C	SCOPE CONTROL CARDS.	EXPLAIN	32
130	C		EXPLAIN	33
	C	A SET OF DEFAULT VALUES ARE ASSUMED, EXCEPT IN THE CASE OF THE	EXPLAIN	34
	C	=DEF= VERB. HERE, ALL SUB-VERBS ARE INITIALLY SET TO ZERO, AND	EXPLAIN	35
	C	SYSDUMP WILL USE THE VALUES FOUND ON THE DEAD-START DUMP TAPE S	EXPLAIN	36
	C	CMR AS IT S PCINTERS. IF THE SUB-VERB IS SET, SYSDUMP WILL	EXPLAIN	37
135	C	THEN COMPARE THE INPUT VALUE WITH CMR POINTERS. IF THEY	EXPLAIN	38
	C	DISAGREE, THE INPUT VALUE IS ASSUMED, AND THE ERROR FLAGGED IN	EXPLAIN	39
	C	THE DUMP.	EXPLAIN	40
	C		EXPLAIN	41
	C	ALL NUMERIC VALUES INPUTTED MUST BE OCTAL. OCTAL VALUES MAY	EXPLAIN	42
140	C	HAVE A =B= DESCRIPTCR, JUST TO MAKE SYSDUMP CONSISTENT WITH	EXPLAIN	43
	C	COMPASS AND THE COMPILERS, IE, 7777B.	EXPLAIN	44
	C		EXPLAIN	45
	C	DEFAULT VALUES ARE LISTED IN THE SECOND INPUT CARD EXAMPLE.	EXPLAIN	46
145	C		EXPLAIN	47
	C		EXPLAIN	48
	C		EXPLAIN	49
	C		EXPLAIN	50
	C	VERB PARAMETER OPTION(S) COMMENTS	EXPLAIN	51
	C		EXPLAIN	52
150	C	COM	EXPLAIN	53
	C		EXPLAIN	54
	C		EXPLAIN	55
	C		EXPLAIN	56
	C		EXPLAIN	57
155	C	LOW YES / NO	EXPLAIN	58
	C		EXPLAIN	59
	C		EXPLAIN	60
	C	CP PACK / ALL / FL	EXPLAIN	61
	C		EXPLAIN	62
160	C		EXPLAIN	63
	C		EXPLAIN	64
	C		EXPLAIN	65
	C		EXPLAIN	66
	C		EXPLAIN	67
165	C		EXPLAIN	68



	C		PRECEDED BY AN = SIGN, IE, FL=2.	EXPLAIN	69
	C		IF ALL CONTROL POINTS ARE SELECTED,	EXPLAIN	70
	C		THE SYMCL -ALL- MAY BE USED, IE,	EXPLAIN	71
	C		PACK=ALL.	EXPLAIN	72
170	C			EXPLAIN	73
	C	PPU	PPU DUMP OPTIONS. IF =YES=,	EXPLAIN	74
	C		THEN DUMPS AND QUICK-LOCK WILL BE	EXPLAIN	75
	C		PERFORMED. IF =NO=, THEN NEITHER	EXPLAIN	76
175	C		QUICK-LOCK NOR DUMPS WILL BE DONE	EXPLAIN	77
	C		AND IF =QUICK=, ONLY THE QUICK-	EXPLAIN	78
	C		LOOK WILL BE PRODUCED.	EXPLAIN	79
	C	ECS	IS ECS TO BE DUMPED.	EXPLAIN	80
	C			EXPLAIN	81
	C			EXPLAIN	82
180	C	ABS	SPECIFY RANGE OF ABSOLUTE CM TO	EXPLAIN	83
	C		DUMP. THAT IS, IF YOU WISH TO DUMP	EXPLAIN	84
	C		FROM 320000 TO 540000, THIS CARD	EXPLAIN	85
	C		MAY BE USED TO SPECIFY THE RANGE.	EXPLAIN	86
	C		MULTIPLE ENTRY IS ALLOWED BY USE OF	EXPLAIN	87
185	C		DELIMITERS BETWEEN RANGES. OH YES,	EXPLAIN	88
	C		A SINGLE ENTRY IS INTERPRETED AS	EXPLAIN	89
	C		AWZ ( 0 ) TO THAT VALUE, AND THE	EXPLAIN	90
	C		ENTRY 0,0 IS IGNORED. OVERLAP OF	EXPLAIN	91
190	C		RANGES IS NOT CHECKED FOR, AND WILL	EXPLAIN	92
	C		MERELY TAKE UP SPACE IN A TABLE	EXPLAIN	93
	C		THAT ONLY ALLOWS SIX RANGES. THE	EXPLAIN	94
	C		LEGAL DELIMITERS ARE -- DOLLAR (\$),	EXPLAIN	95
	C		SLASH (/), AND ASTERICK (*).	EXPLAIN	96
	C		MAXIMUM OF SIX RANGES PER DUMP MAY	EXPLAIN	97
195	C		BE SPECIFIED.	EXPLAIN	98
	C			EXPLAIN	99
	C	MASK	ALLWS THE MASKING OF A SPECIFIC	EXPLAIN	100
	C		BIT PATTERN WITHIN PPU MEMORIES.	EXPLAIN	101
	C			EXPLAIN	102
200	C	LIB	IS THE CENTRAL MEMORY LIBRARY AREA	EXPLAIN	103
	C		( PNT AND CM RESIDENT BODIES ) TO	EXPLAIN	104
	C		BE DUMPED.	EXPLAIN	105
	C			EXPLAIN	106
	C	INT	IS THE INTERCOM BUFFER AREA TO BE	EXPLAIN	107
205	C		DUMPED, AND IF SO, ALL, OR PARTIAL,	EXPLAIN	108
	C		WHERE PARTIAL INDICATES JUST USER	EXPLAIN	109
	C		TABLES WILL BE DUMPED ( AS DOES	EXPLAIN	110
	C		THE SUB-VERB -USER- ).	EXPLAIN	111
	C			EXPLAIN	112
210	C	DEF	ALLWS AN ABSOLUTE OVER-RIDE OF THE	EXPLAIN	113
	C		DEFAULT PARAMETERS USED BY SYS DUMP	EXPLAIN	114
	C		TO VERIFY CMR POINTERS, OR CERTAIN	EXPLAIN	115
	C		RANGES SYS DUMP USES IN PROCESSING.	EXPLAIN	116
	C		THE SUB-VERB IS FOLLOWED BY AN	EXPLAIN	117
215	C		EQUAL SIGN ( = ) AND AN OCTAL VALUE	EXPLAIN	118
	C		THAT REDEFINES THE ADDRESS OR RANGE	EXPLAIN	119
	C		OF THAT VARIABLE, IE, FWA FNT=4620.	EXPLAIN	120
	C			EXPLAIN	121
	C			EXPLAIN	122
220	C			EXPLAIN	123



ALS.

# MEMO



DATE: November 9, 1973

TO: K. J. Wanger/Distribution

LOCATION:

FROM: S. K. Kwok

LOCATION: SVL192A

EXT: 7683

SUBJECT: Deadstart Dump Tape Analyzer

A deadstart dump tape analyzer written to analyze deadstart dump tapes has been updated. Changes were made in various installation parameters, system pointers and status tables. In addition, an ECS dump option has been introduced.

Enclosed are the PL of the analyzer (labelled "MODIFIED SYSDUMP. ANALYZER") and a listing (labelled "SYSDUIC"). The listing contains the update deck list, the source deck listing and a complete output produced by the analyzer. The output consists of various CM tables, dayfile buffers, type A control point areas, field length dumps and instruction scan information. Also, 200K CM, all PPU's and ECS dumps are included. Immediately preceding the PPU dumps is a quick look at PP residence.

The analyzer (SYSDUMP) is designed as a debugging aid for CDC on-site analysts and Sunnyvale personnel. It will not be supported as an official product set program. The code for SYSDUMP is being submitted under PTR S0000022 for installation into the earliest possible ALPHA cycle deadstart and OSPL tapes.

The analyzer has been designed to analyze a "Z" option deadstart dump which has been output to tape. The deadstart dump should contain all of CM, all PPs and program-selected areas of ECS. The analyzer also works for the "Y" option of deadstart dump which contains all of CM and all PPs. In this case, ECS dumps option must be inhibited by specifying on the data card described below.

Control cards used to execute the analyzer are also enclosed. The control card "SYSDUMP." will start the execution of the analyzer. Input data cards specifying various options provided by the analyzer are read from the 'INPUT' file. If no option is selected, these cards should not be present.

The following is a representative job deck arrangement:

```

SKWOK, CM65000, T1000.      (26 in col. 79-80)
SYSDUMP.
7-8-9
DATA CARDS
.
.
.
6-7-8-9

```

If present, data cards must appear in the order shown below.

Data Card No.	Card Columns	Description
1	1-4	Number of low CM words (System Pointer area starting from word 0) to be dumped (in octal). Maximum = 57
2	1	Field length dump for CP 1.
	2	Field length dump for CP 2.
	3	Field length dump for CP 3.
	4	Field length dump for CP 4.
	5	Field length dump for CP 5.
	6	Field length dump for CP 6.
	7	Field length dump for CP 7.
		NOTE: On columns 1 through 7, a '1' in the appropriate column selects the field length dump option for that control point. A '0' does not select the option.
	8	Instruction scan for CP 1.
	9	Instruction scan for CP 2.
	10	Instruction scan for CP 3.
	11	Instruction scan for CP 4.
	12	Instruction scan for CP 5.
	13	Instruction scan for CP 6.
	14	Instruction scan for CP 7.
		NOTE: On columns 8 through 14, a '1' in the appropriate column selects the instruction scan option for that control point. A '0' does not select the option.
	15	Dump of the control point package of CP 1.
	16	Dump of the control point package of CP 2.
	17	Dump of the control point package of CP 3.
	18	Dump of the control point package of CP 4.
	19	Dump of the control point package of CP 5.
	20	Dump of the control point package of CP 6.
	21	Dump of the control point package of CP 7.
		NOTE: On columns 15 through 21, a '1' in the appropriate column selects the control point package dump for that control point. A '0' does not select the option. The control point package contains control point area, dayfile and FET entries.
3 to 3 + n - 1		NOTE: These n cards are present only if scan option on card 2 is selected. Data cards 3 to 3+n-1 apply to all control points specified on card 2 (columns 8-14).
3	1-3	Mnemonic of the first instruction selected for scanning. This can be left or right justified since it is used for output purpose only.
	4-6	Octal function value of the first instruction selected. This should be left justified.
4	1-3	Mnemonic of the second selected instruction.
	4-6	Octal function value of the second instruction (left justified).
.	.	.
.	.	.
.	.	.
3 + n - 1	1-3	This card indicates no more instructions are selected for scanning. The first three columns

<u>Data Card No.</u>	<u>Card Columns</u>	<u>Description</u>
3 + n	1	must contain an 'END'. There is no limit on the number of instructions selected for scanning.
4 + n	1	ECS dumps option. A '1' in the column specifies ECS dumps extracted from the deadstart dump tape are wanted. A '0' does not select this option.
5 + n through m + n	1-6	PP memory dumps. A '1' in the column dumps PP memory from the deadstart dump tape. A '0' does not select the option.
	7-12	Octal number specifying the first word address for an absolute central memory dump wanted.
	13	Octal number specifying the last word address for the absolute central memory dump wanted.
		Indicates whether a display code dump is wanted. A 'D' selects this option which causes both octal and display code dumps to appear side by side. A blank suppresses the display dump and leaves the octal

**NOTE:** There is virtually no limit on the number of absolute central memory dumps. The first word address of every dump must be greater than or equal to zero. The last word address of a dump must be greater than or equal to the first word address of the dump. The limit for the last word address is 377777 in octal.

The following is an example illustrating the structure of the input data cards.

Card No.	Column:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22...
1					5	7																	
2		1	1	0	1	1	0	0	0	0	0	1	1	0	0	1	1	0	1	1	0	0	
3					F	X	3	0															
4					R	J	0	1	0														
5					E	N	D																
6					0																		
7					1																		
8					0	0	0	0	0	0	0	0	4	0	0								
9					0	3	0	0	0	0	2	0	0	0	0	0							

The first data card indicates that the first 57 low CM words are to be dumped. Columns 1 to 7 on the second data card indicate that field length dumps for control points 1, 2, 4 and 5 are wanted. Columns 8 to 14 specify that instruction scan for control points 4 and 5 is desired. Columns 15 to 21 indicate that control point package dumps for control points 1, 2, 4 and 5 are wanted. Cards 3 through 5 specify the instructions selected for instruction scan. Card 3 indicates the instruction FX is selected and card 4 indicates the instruction RJ is selected. Card 5 informs the analyzer that this is the end of the instruction data cards. The sixth card inhibits ECS dumps with a '0' in

column 1. The seventh card selects PP memory dumps. The eighth data card specifies the first set of central memory to be dumped. The range is from octal address 0 to 400. The last data card specifies a second set of CM dumps is desired. The dump is to cover the range from octal address 30000 to 200000. The last character 'D' (on column 13) indicates a display code dump for this set is wanted.

If no input data cards are present, pre-defined values will be taken. The following describes these default parameters.

- Octal number of low CM words to be dumped = 57;
- Field length dump is not selected;
- Instruction scan is not selected;
- Control point package dump is selected for every control point to which a job has been assigned;
- ECS dumps are selected;
- PP memory dumps are selected;
- One set of CM dumps is selected. The range of this dump is from octal address 0 to 200000. Display code dumps are not selected.

After the analyzer has been initiated, a dynamic request for the dump tape will be displayed on the console. The deadstart dump tape must then be assigned. The analyzer will analyze the dumps on the tape. A termination message "END OF SYSDUMP ANALYSIS" on the console indicates successful termination.

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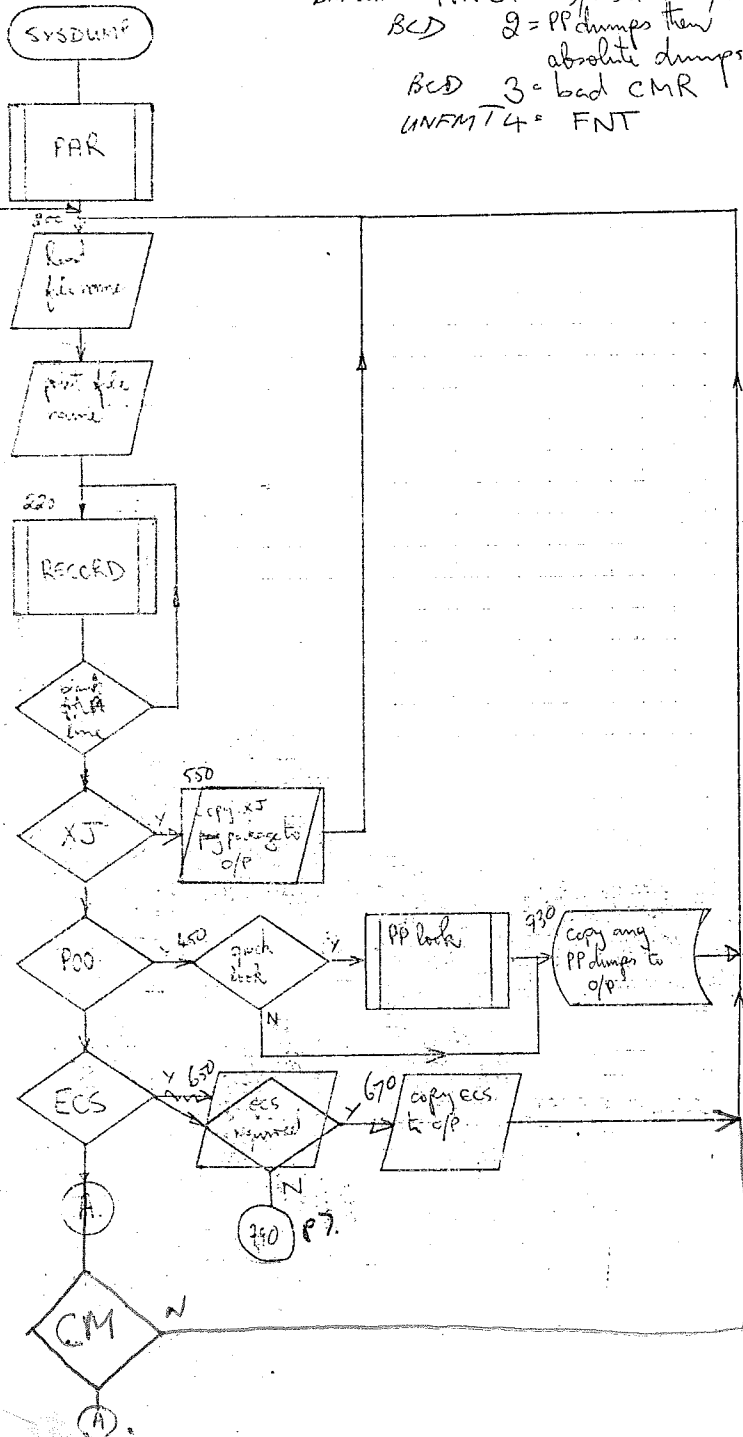
S. K. Kwok, Operating System  
Systems Software - ALS

SKK:ms

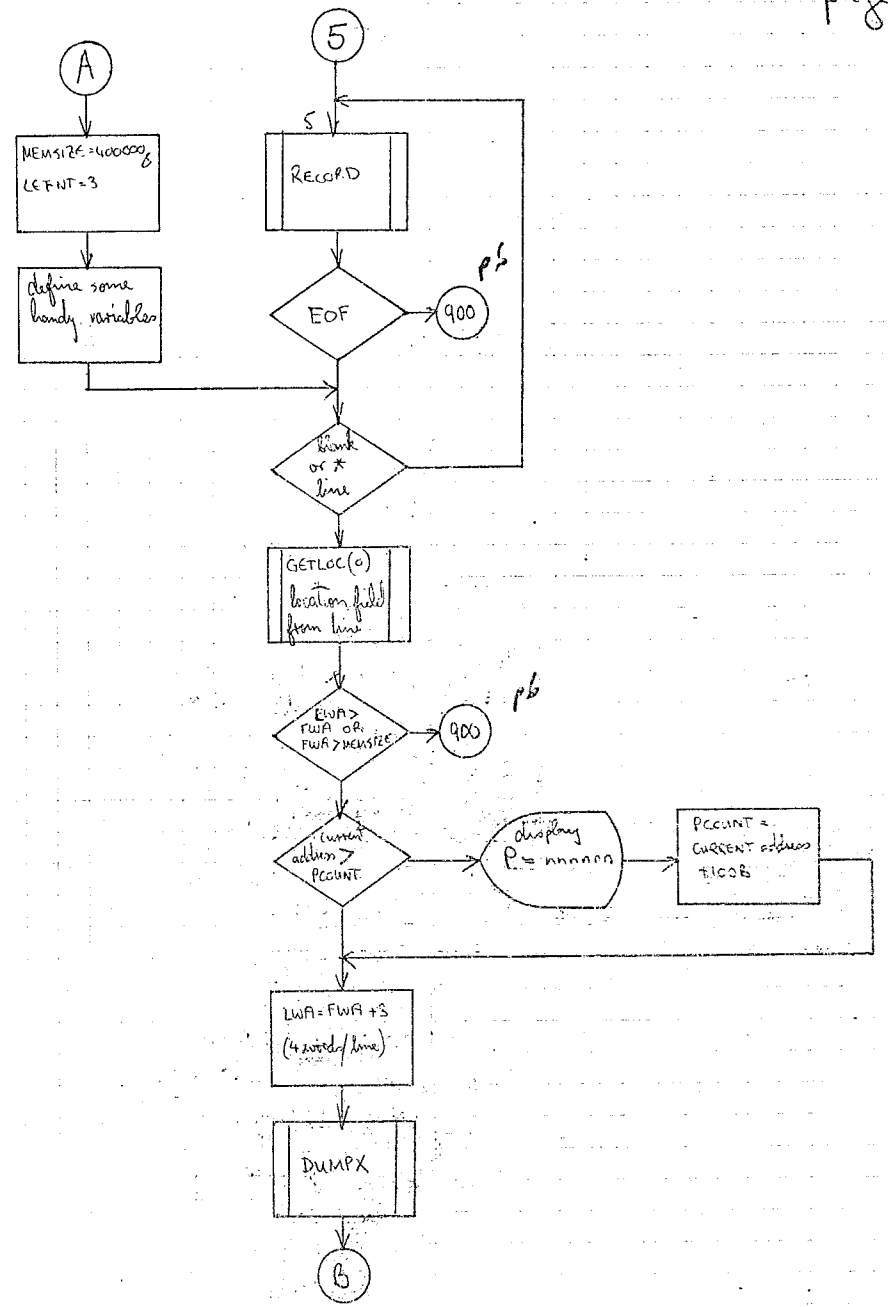
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M. J. Miller  
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H. C. Schnackel  
R. H. Sinco

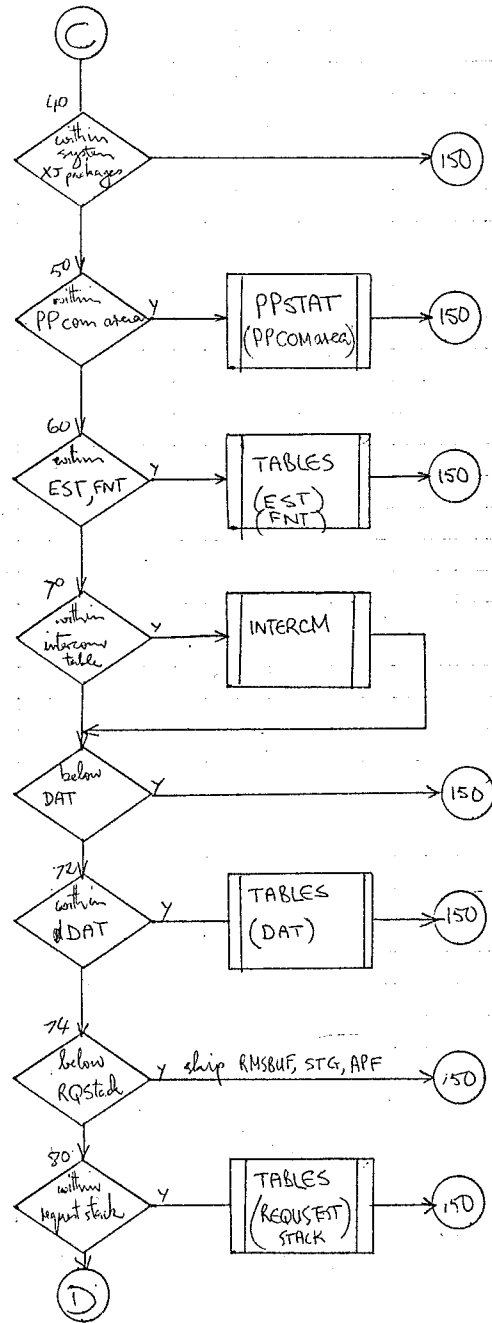
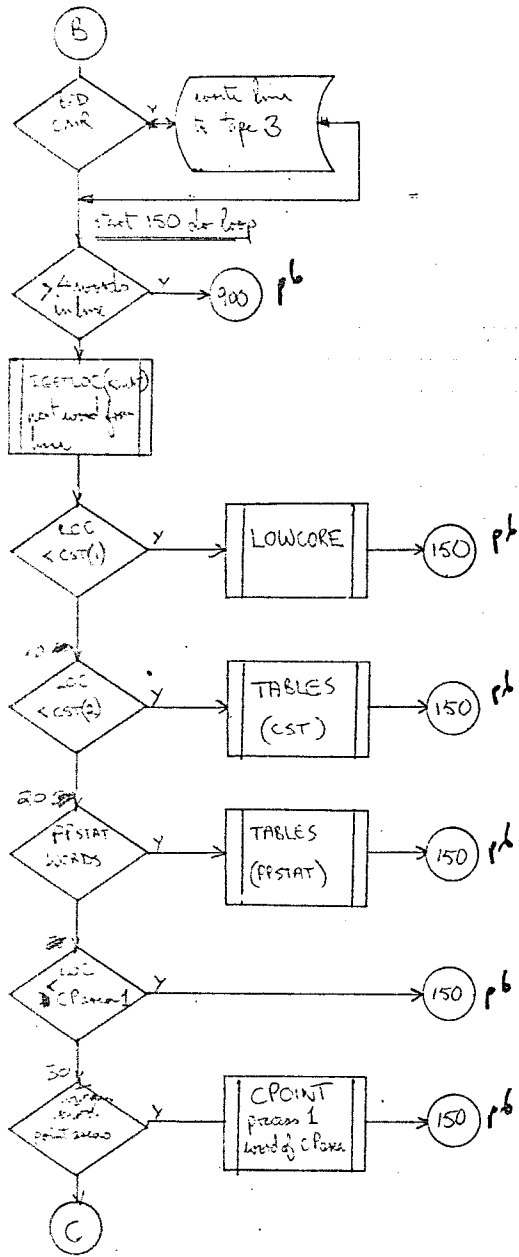
BIN BUF TAPE1 = 3/5 DUMP I/P  
 BCD 2 = PP dumps then  
 absolute dumps  
 BCD 3 = bad CMR  
 UNFMT 4 = FNT

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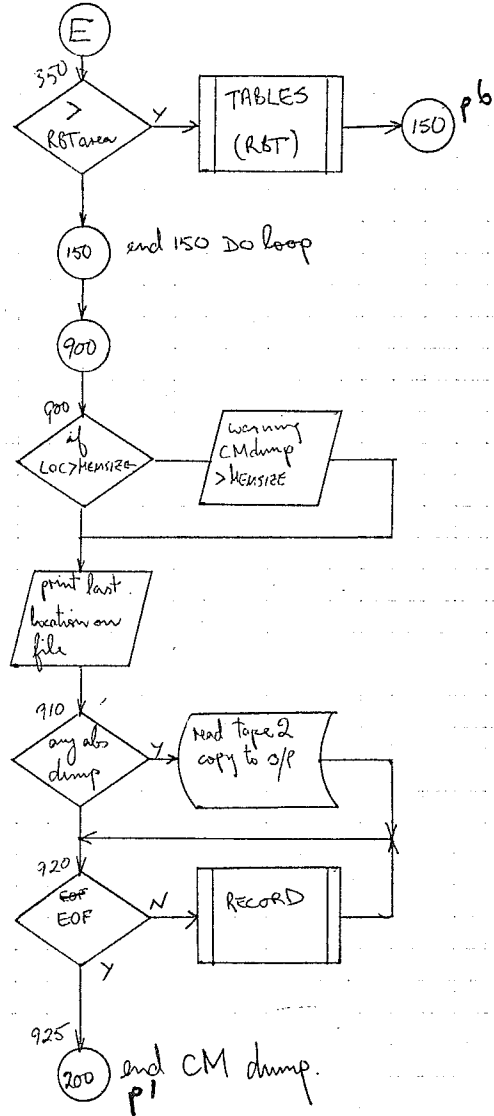
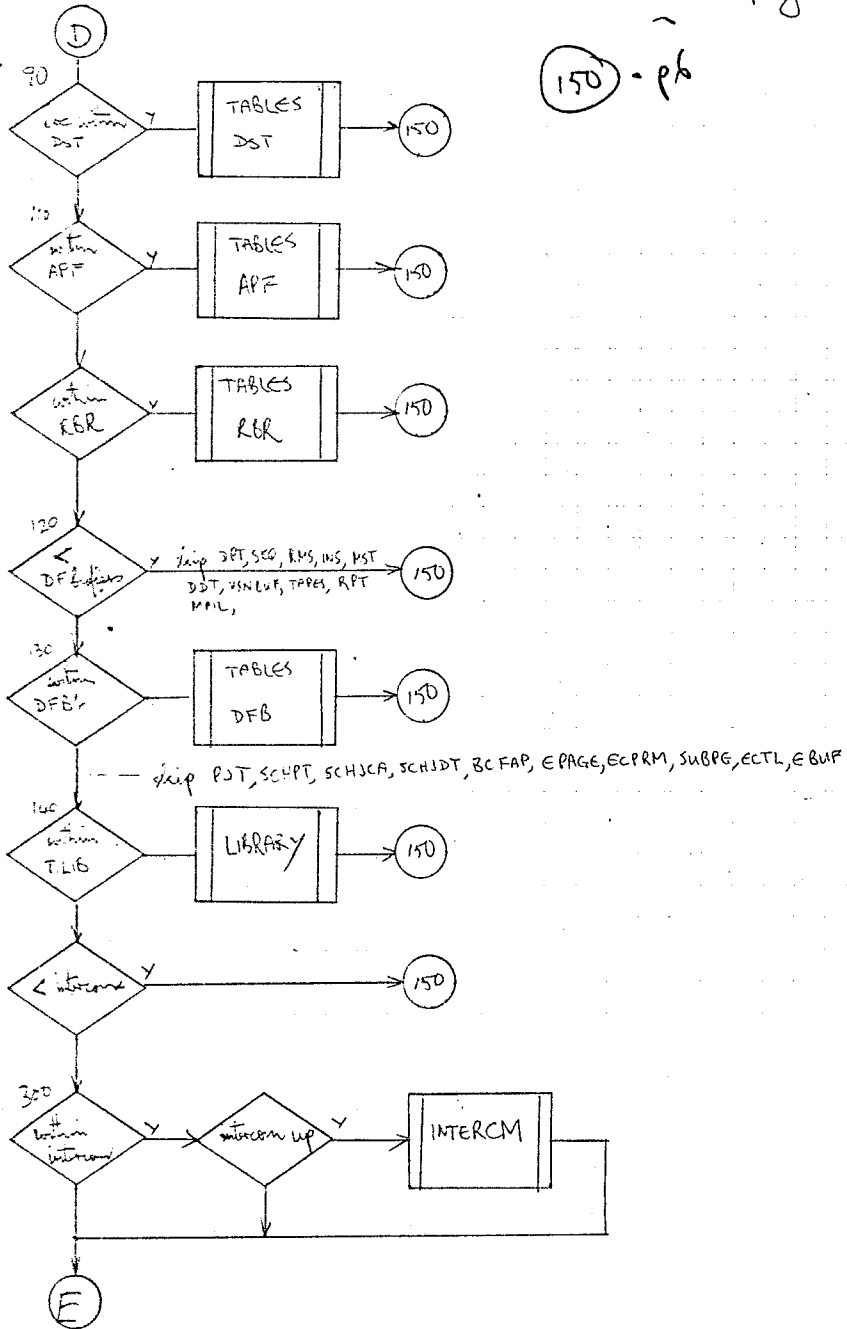
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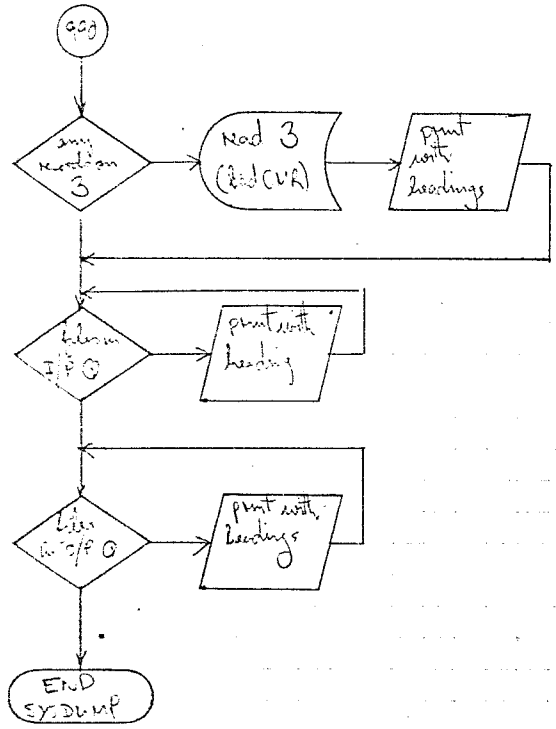




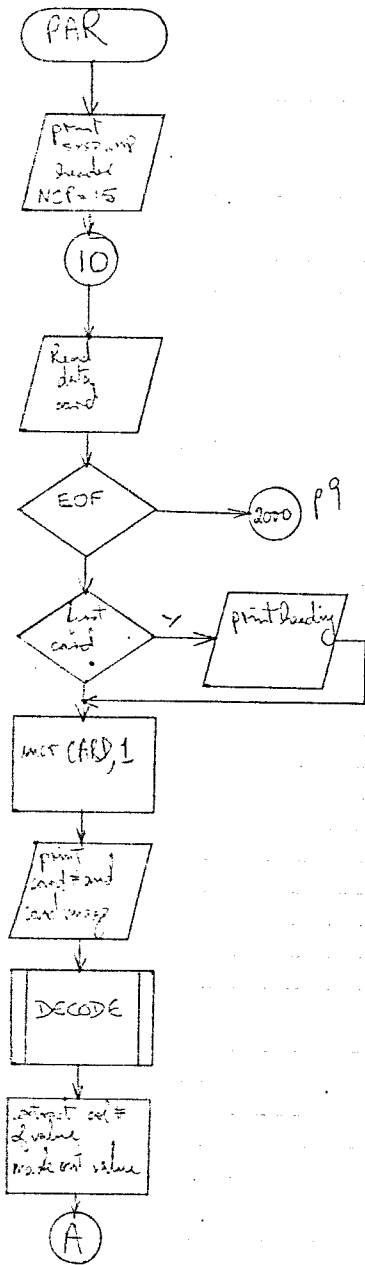
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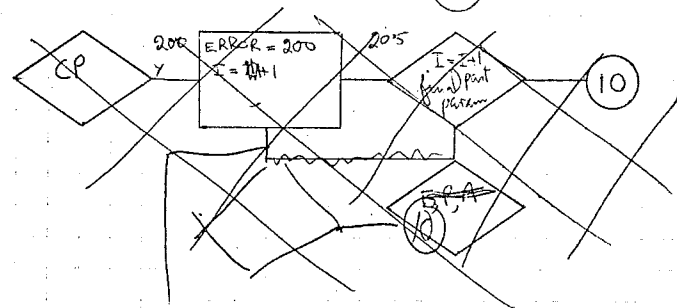
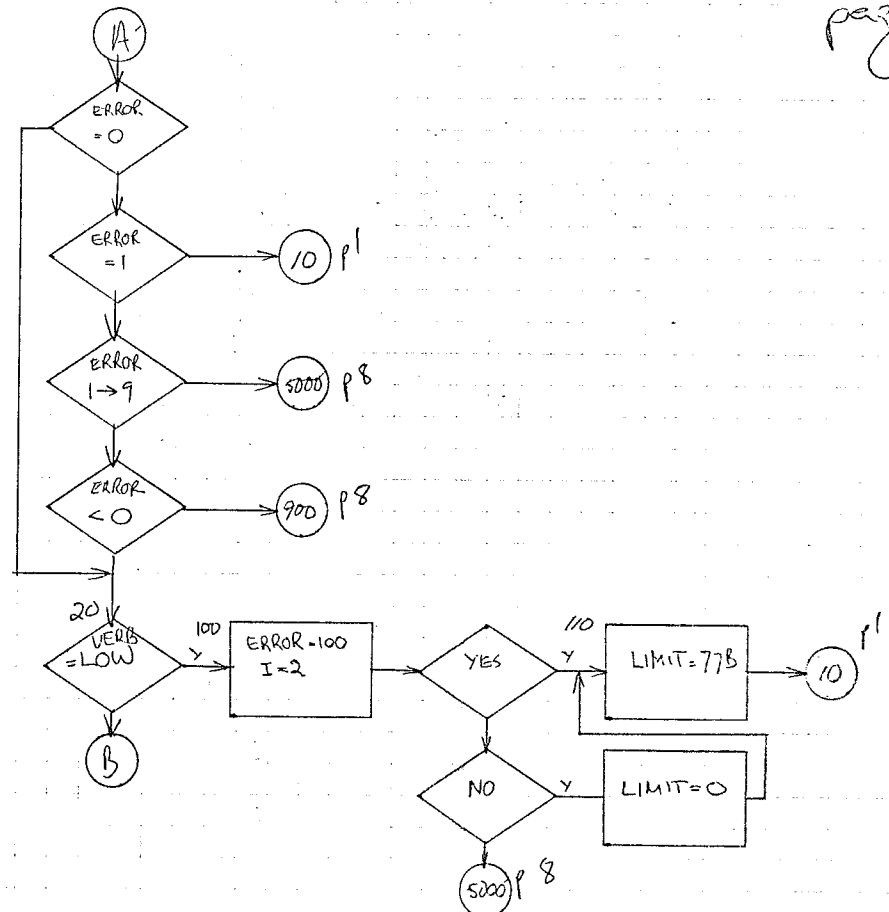
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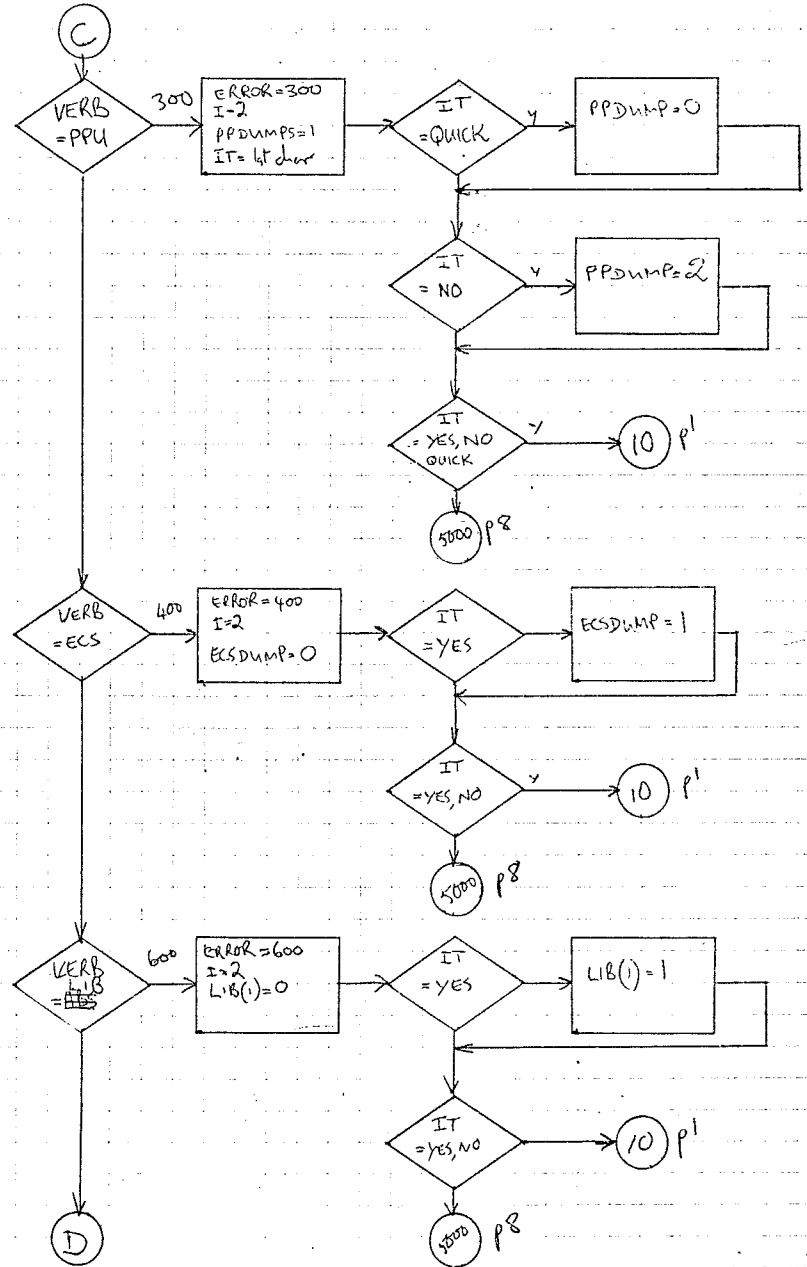
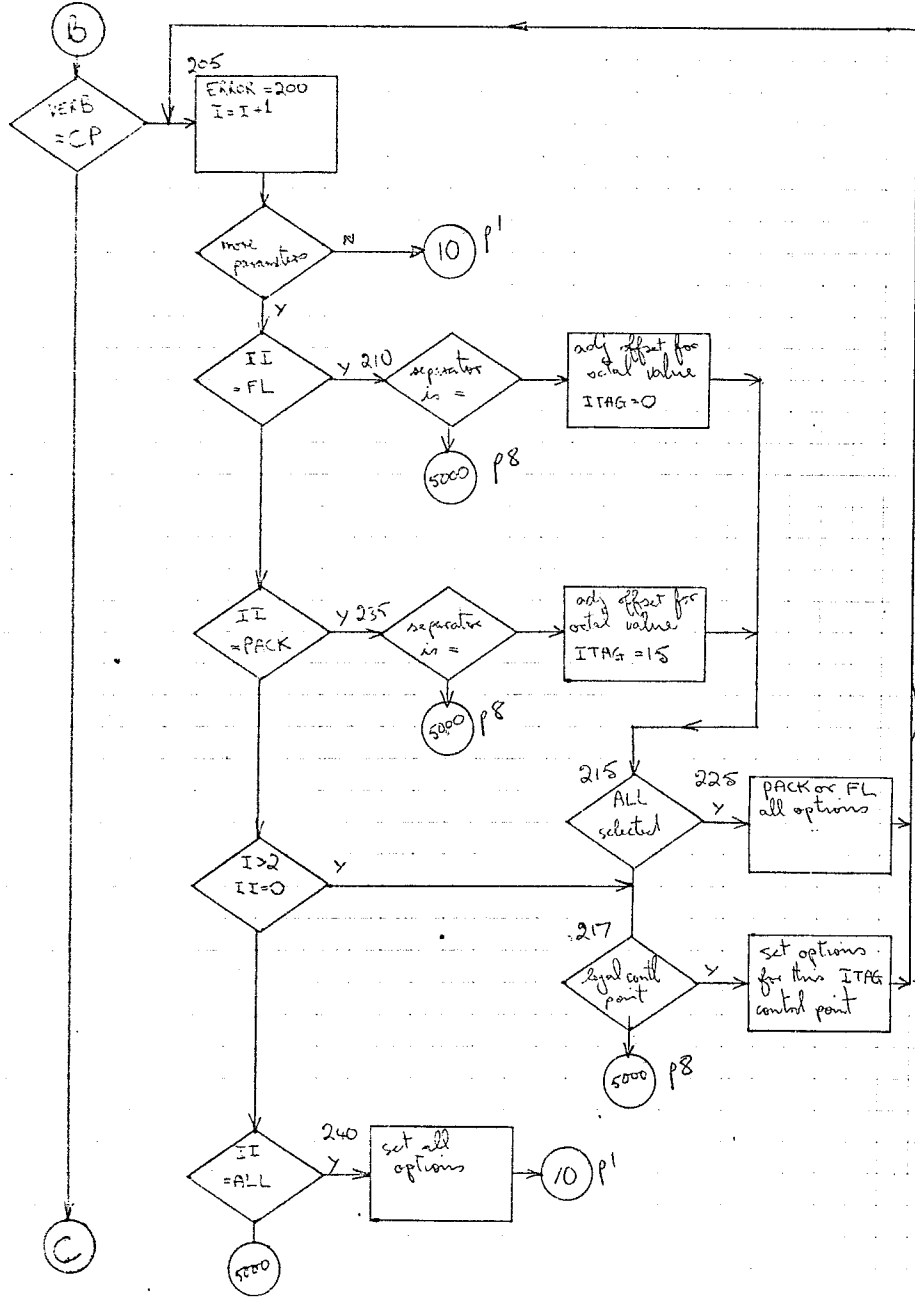


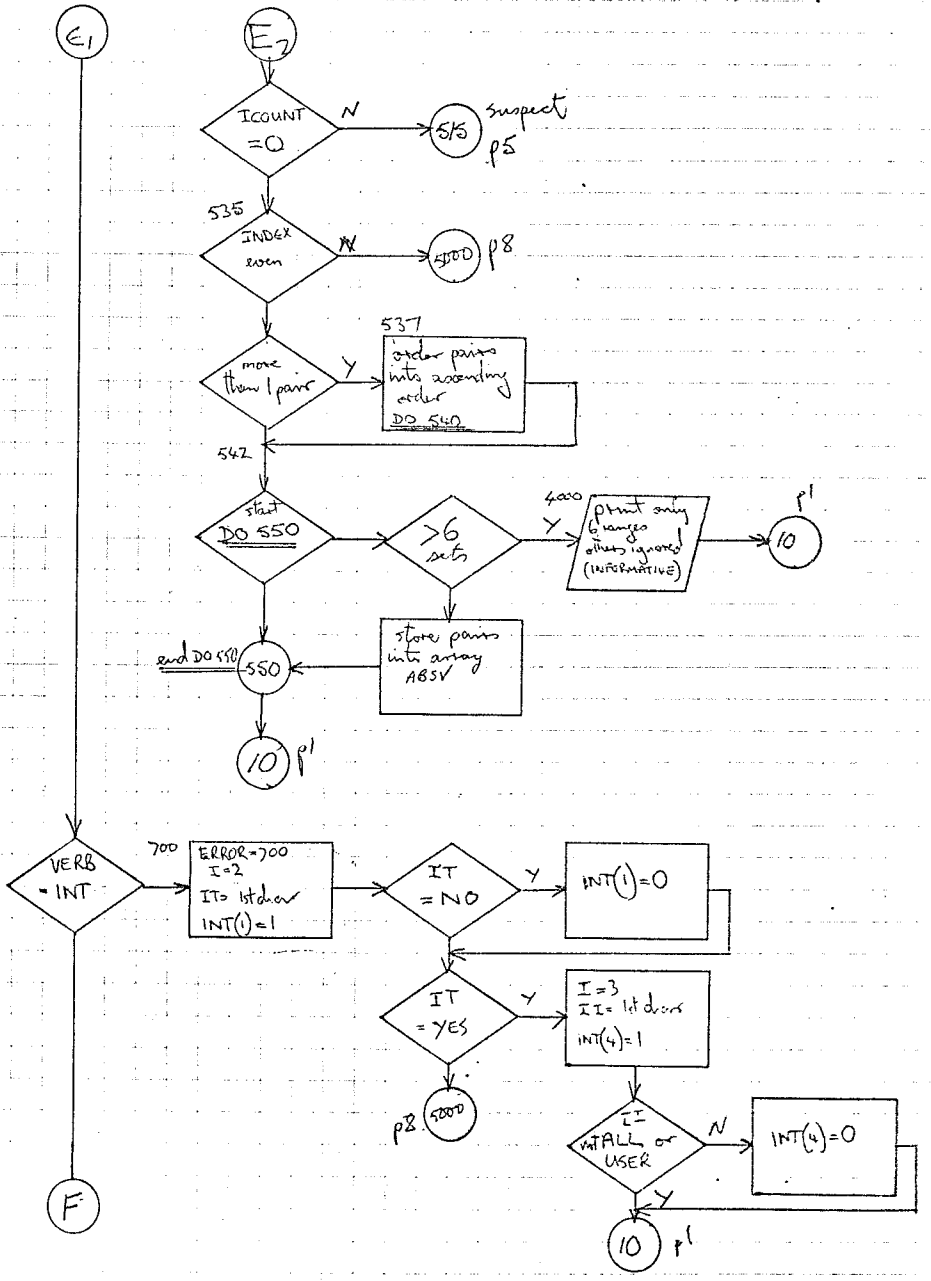
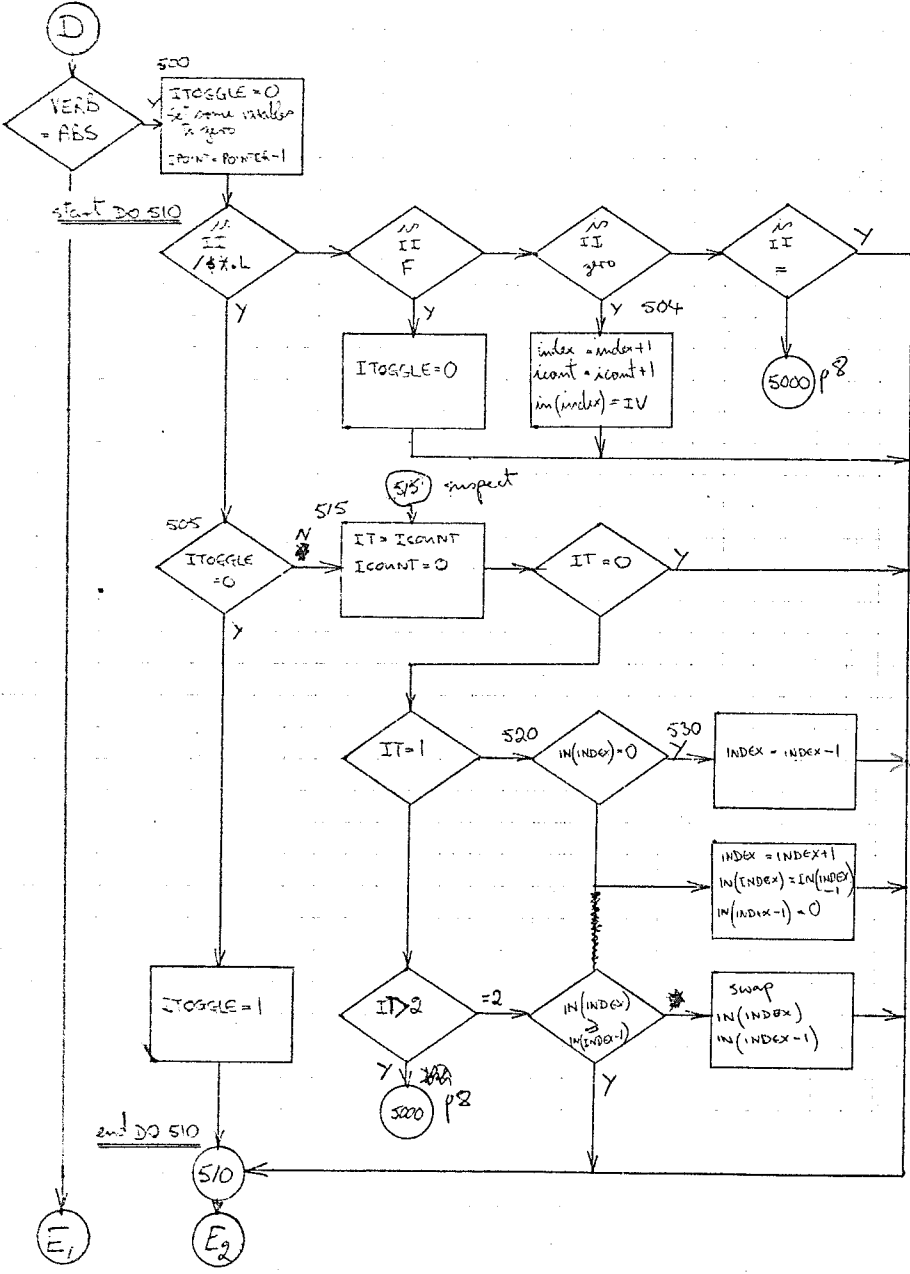
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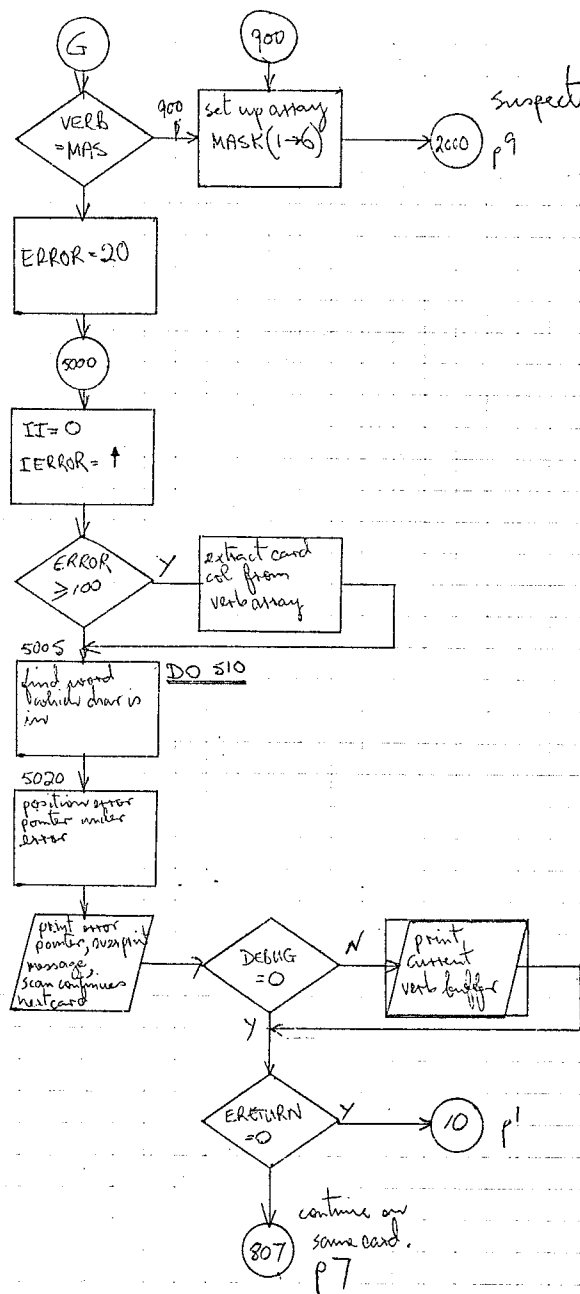
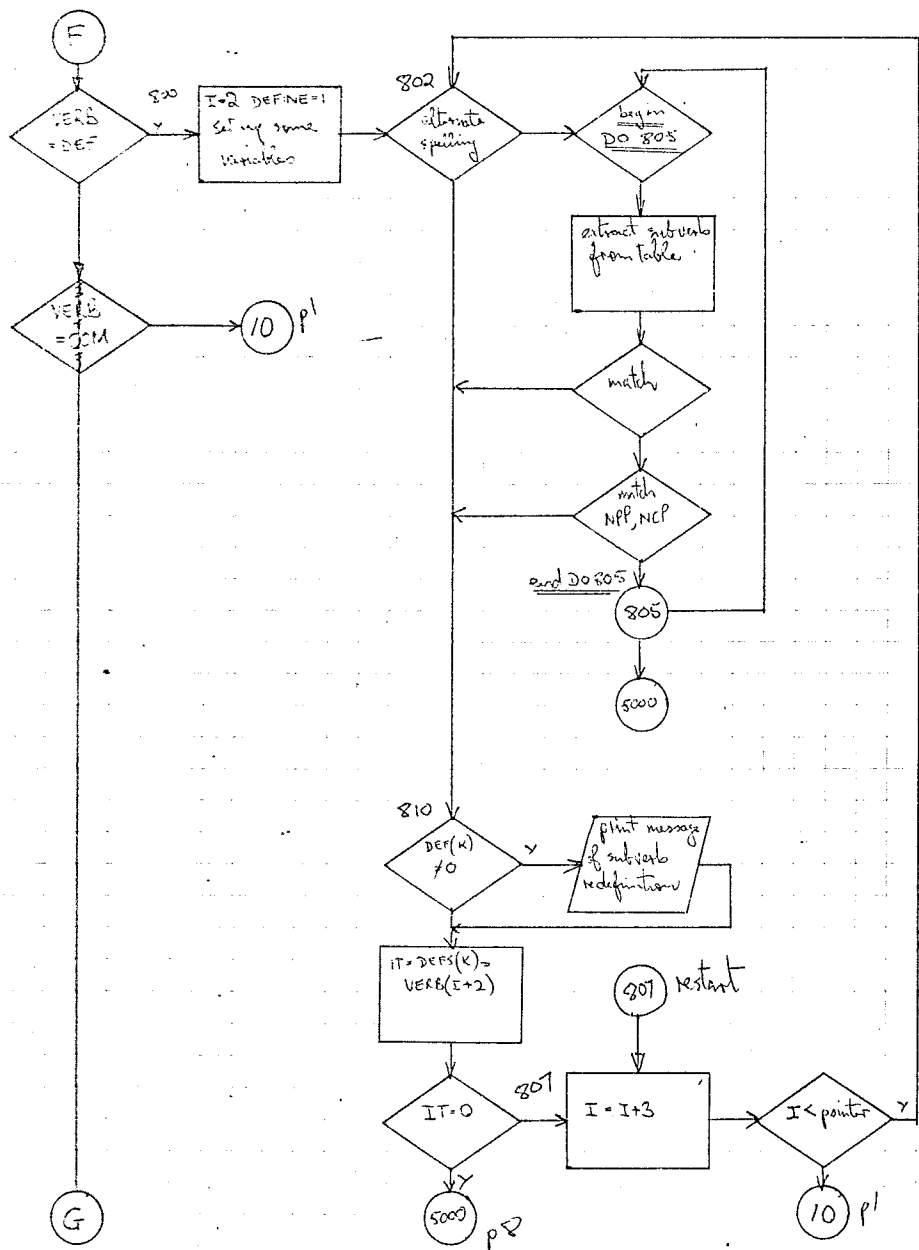


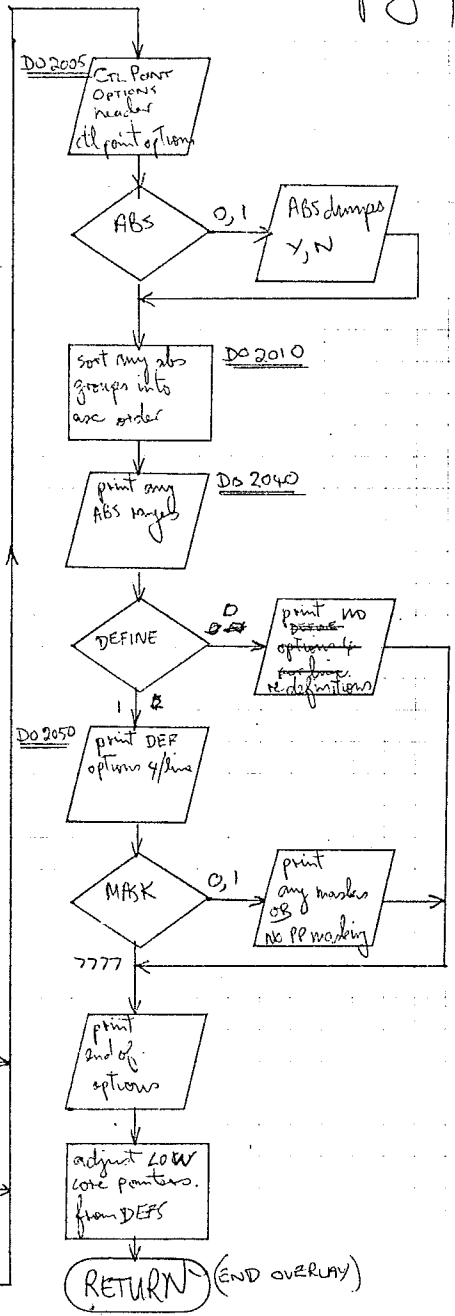
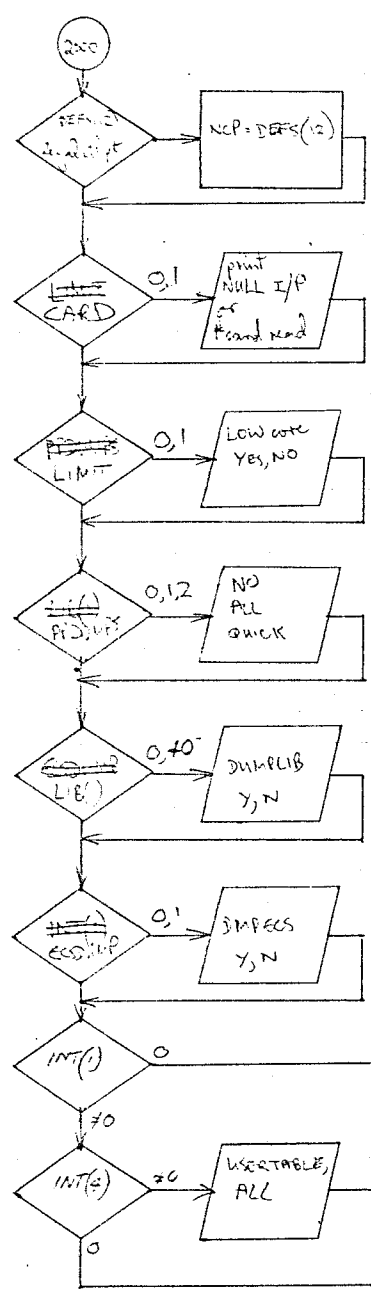
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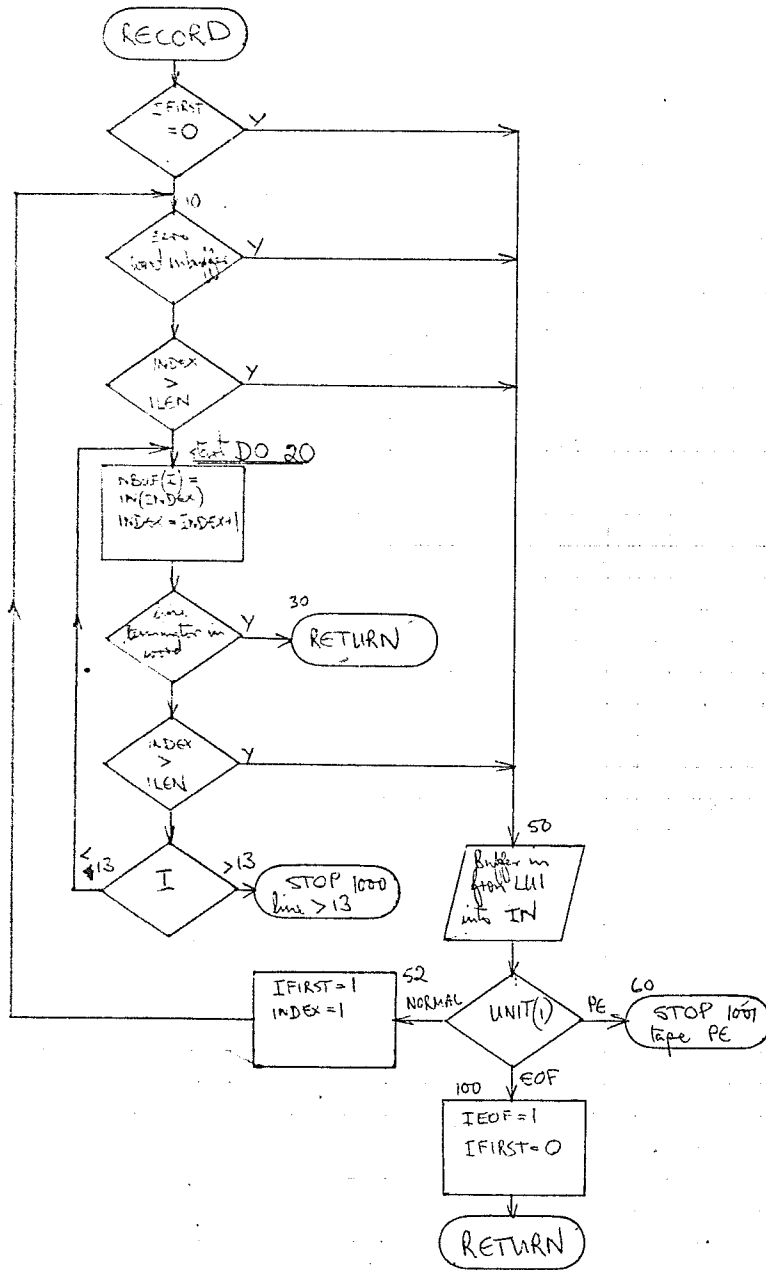




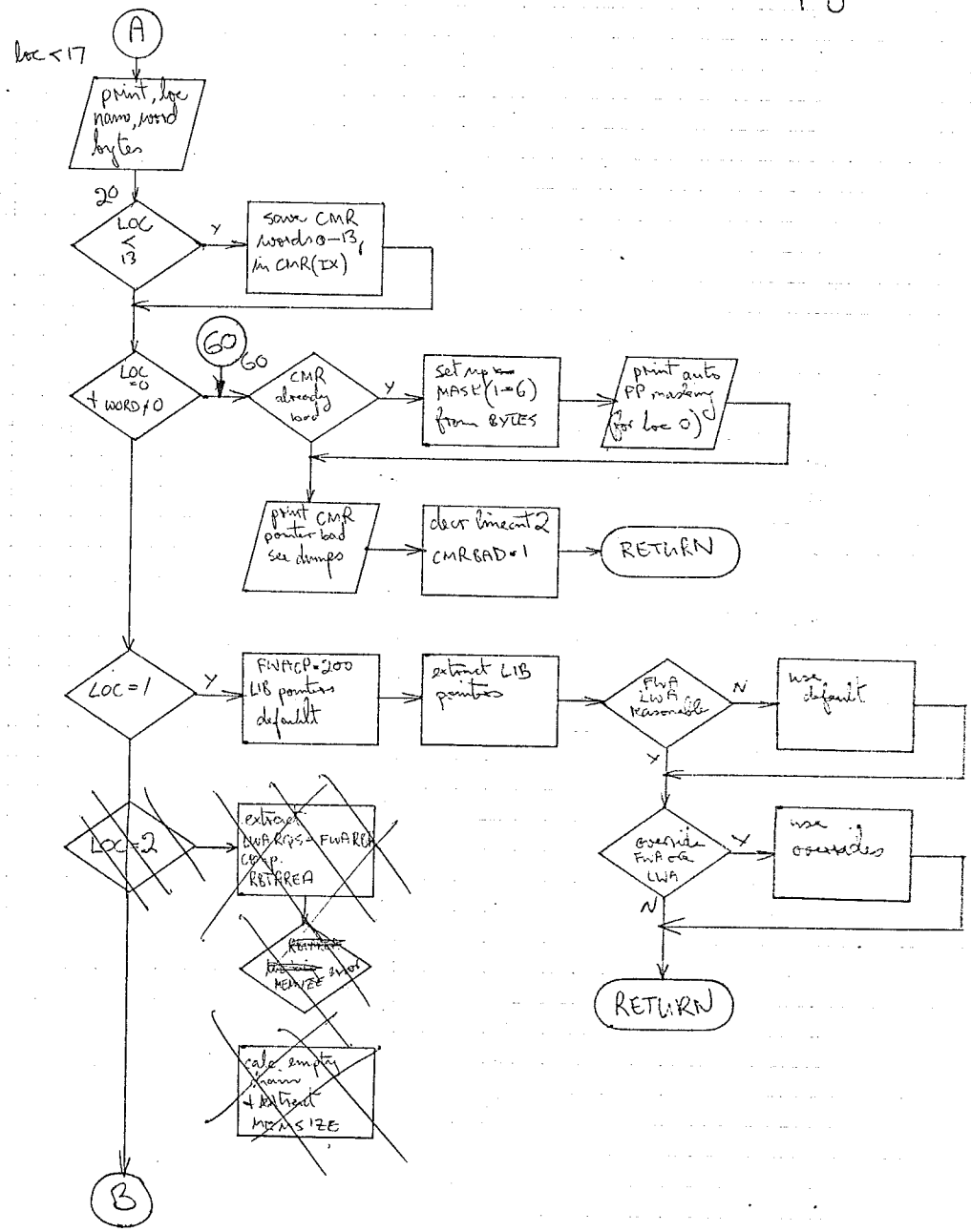
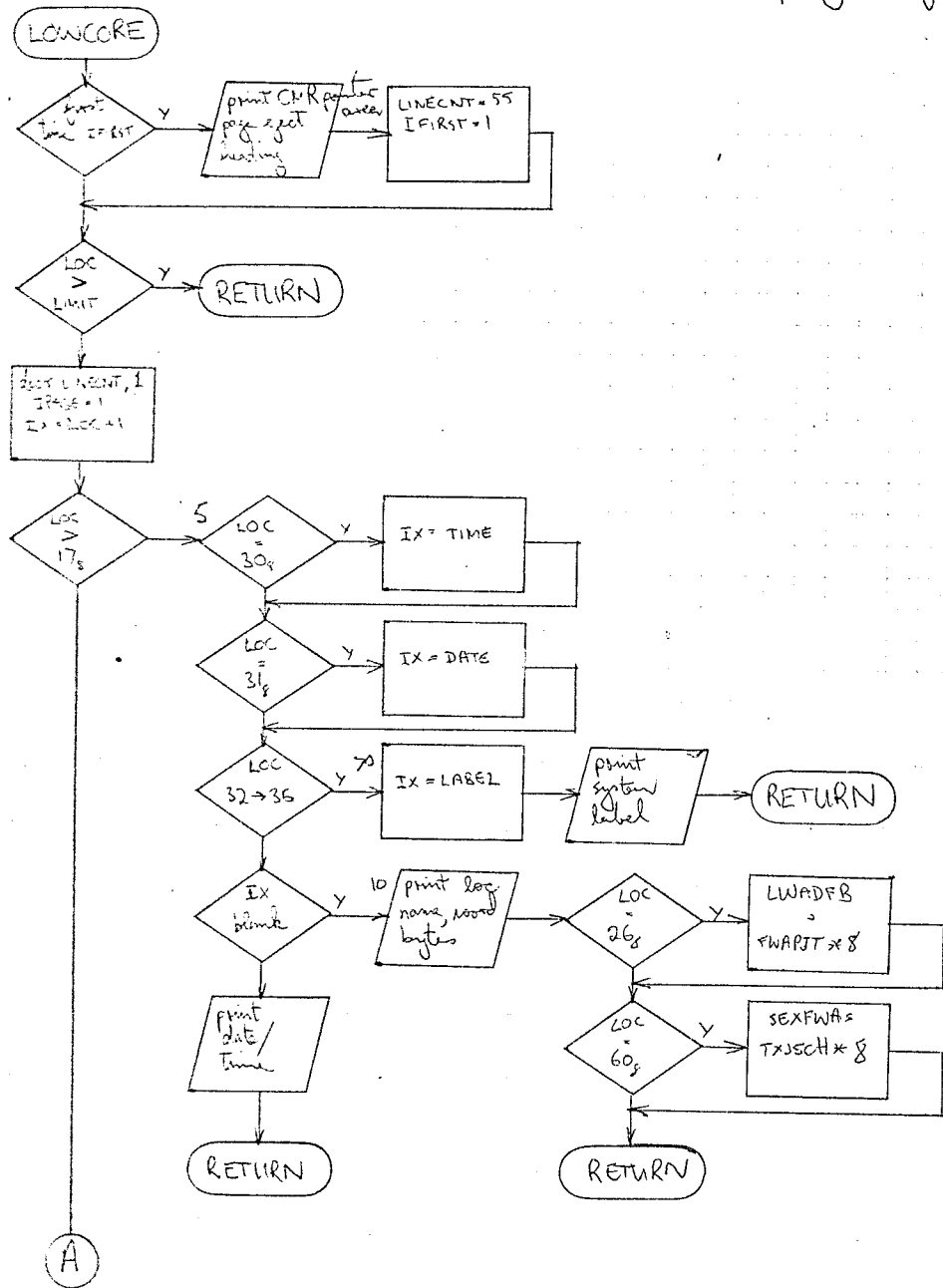




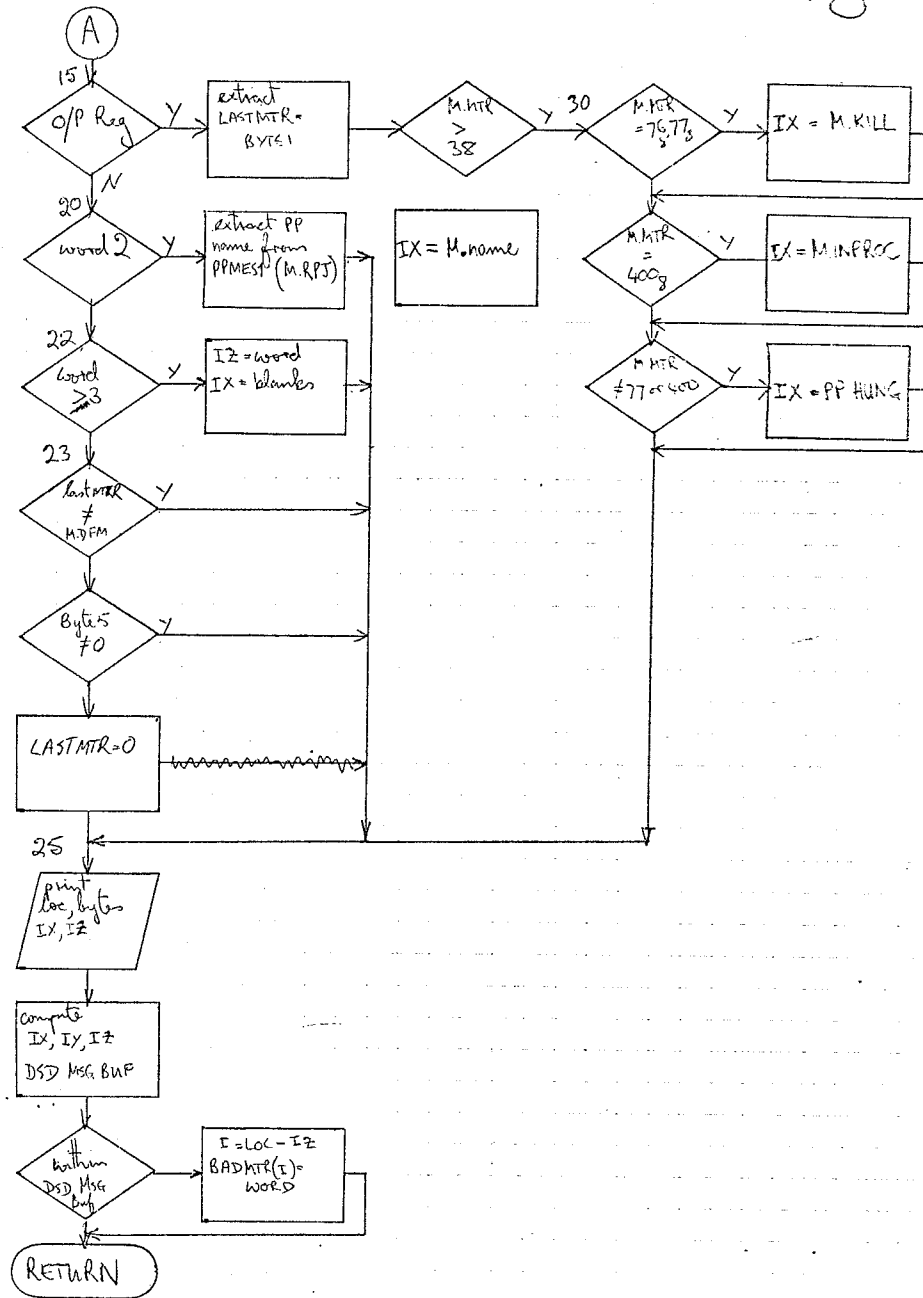
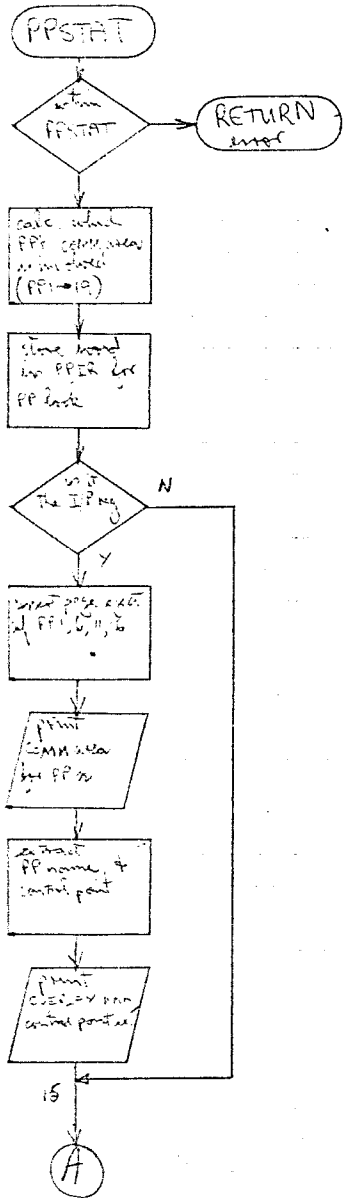


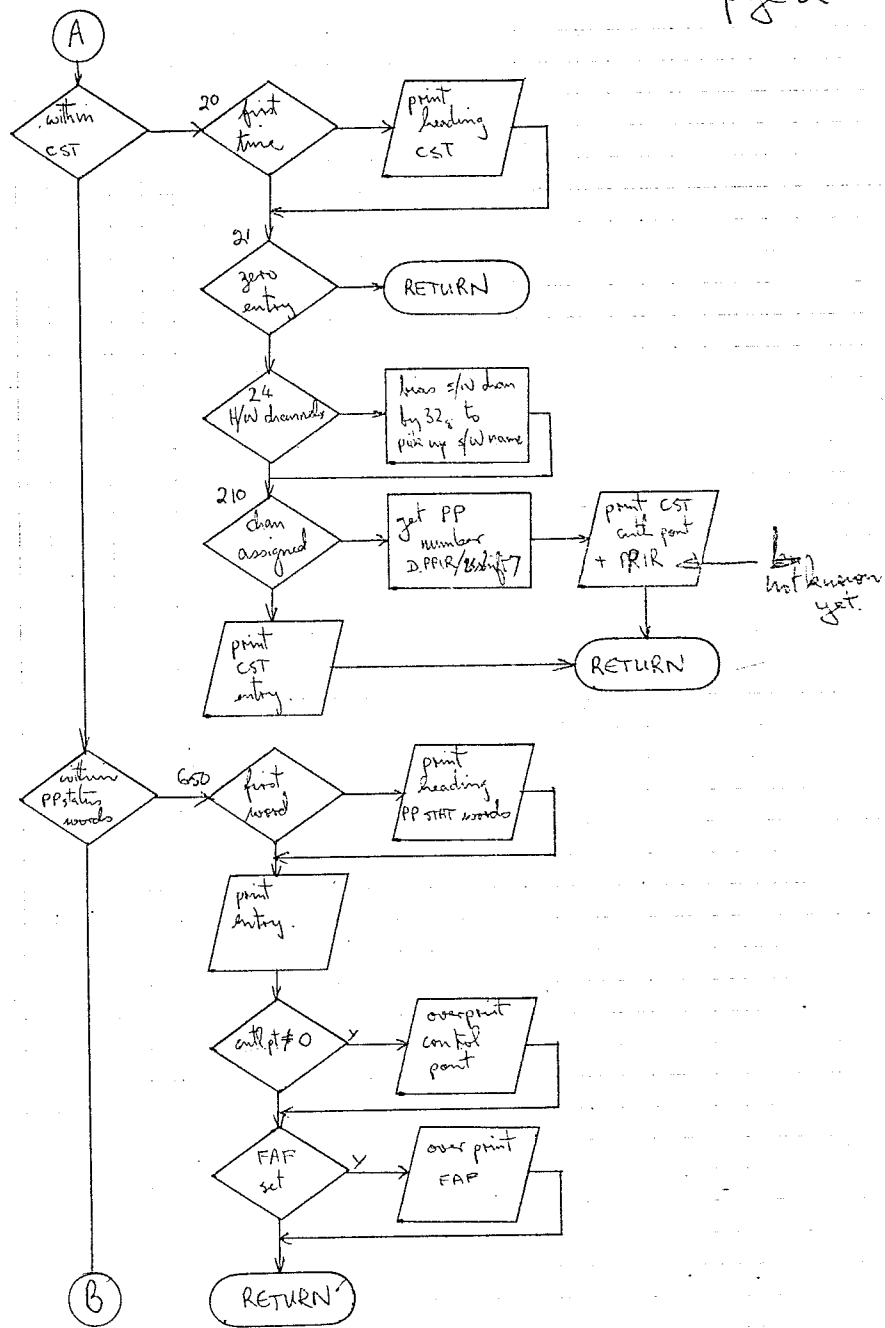
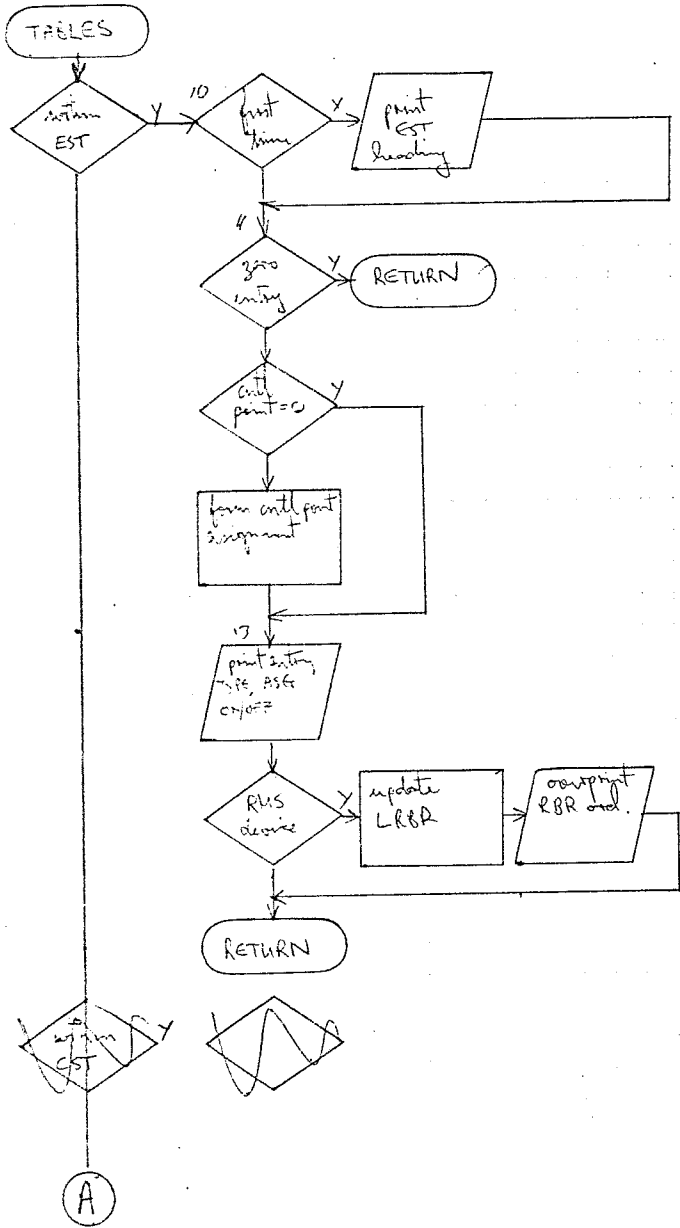


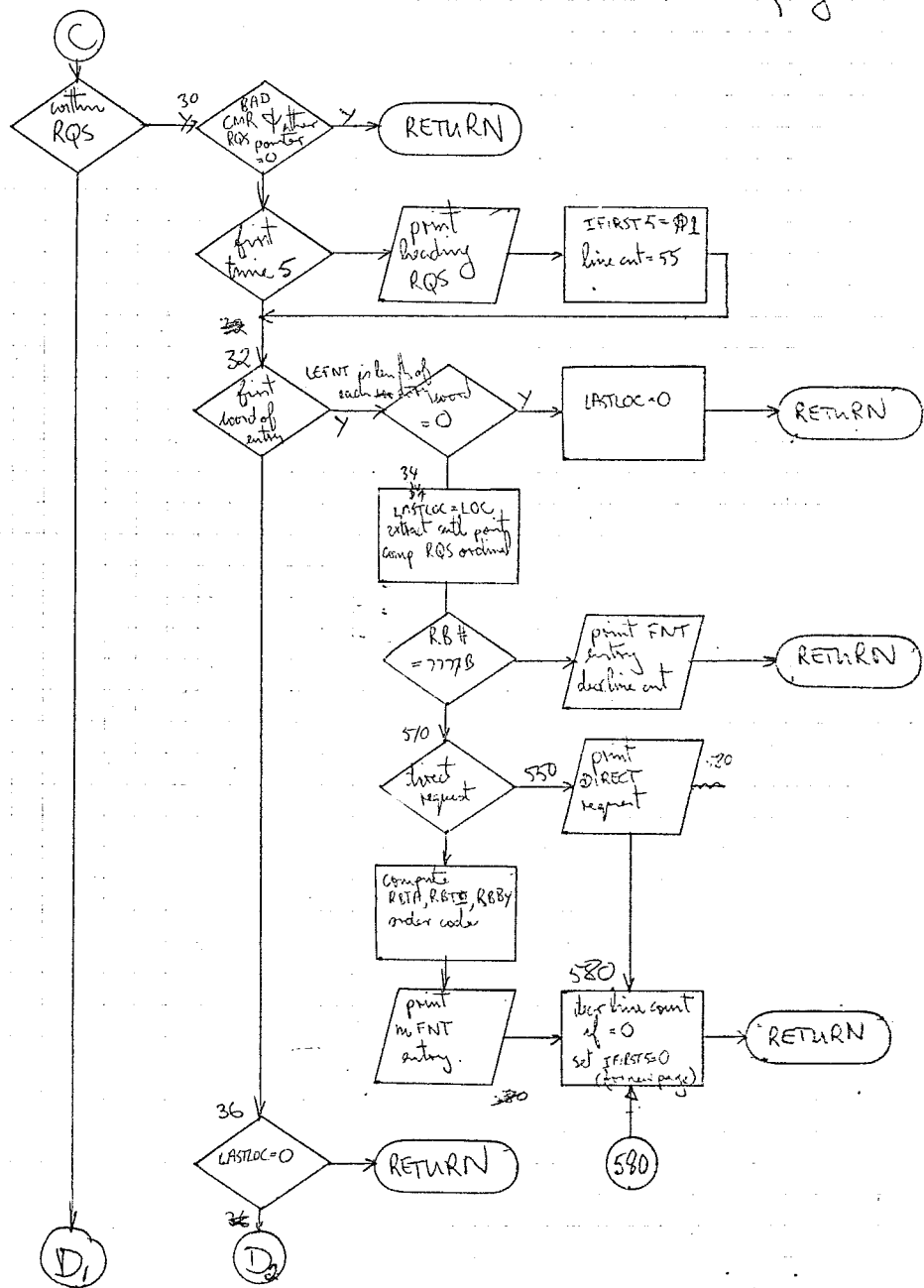
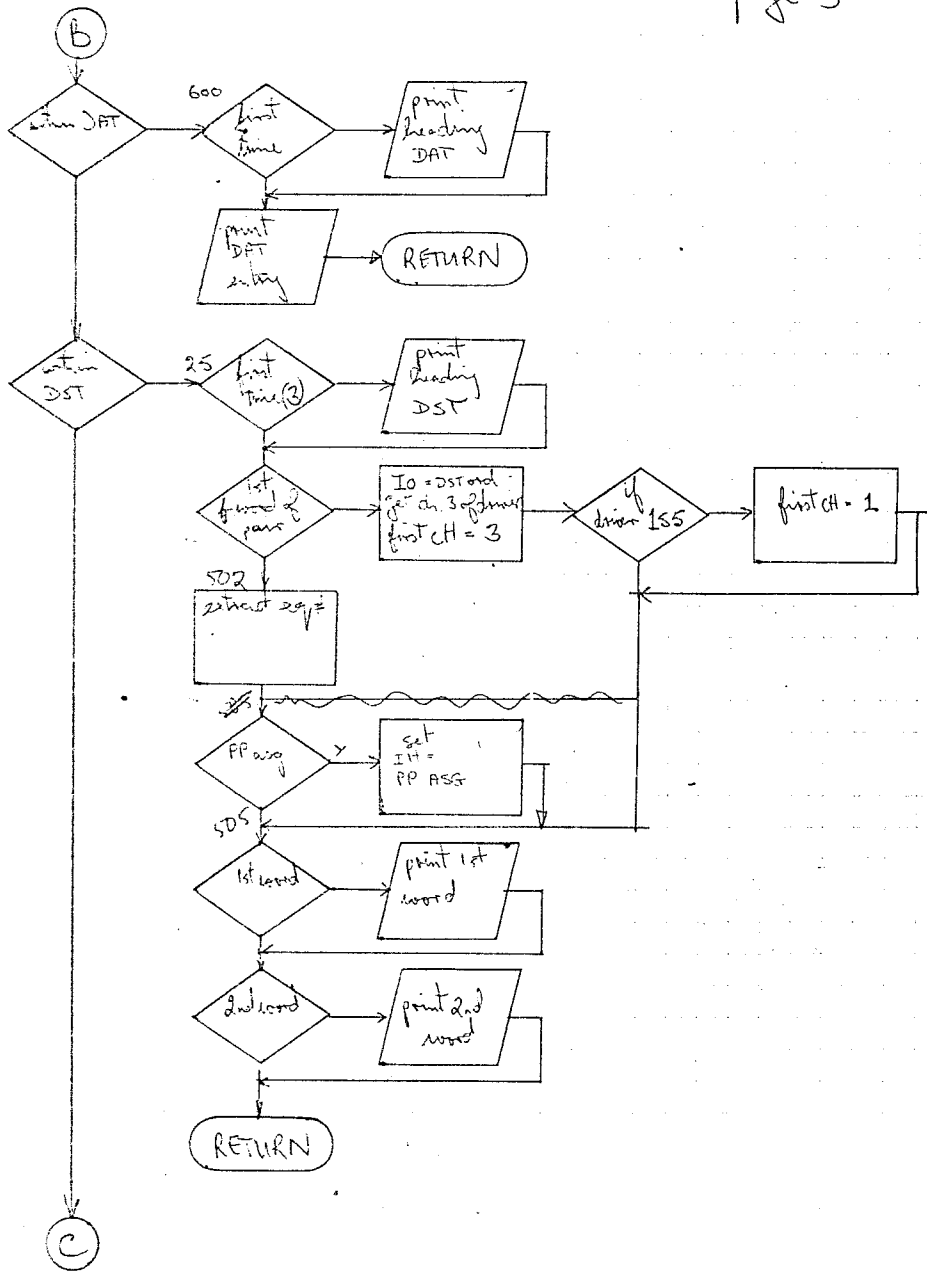


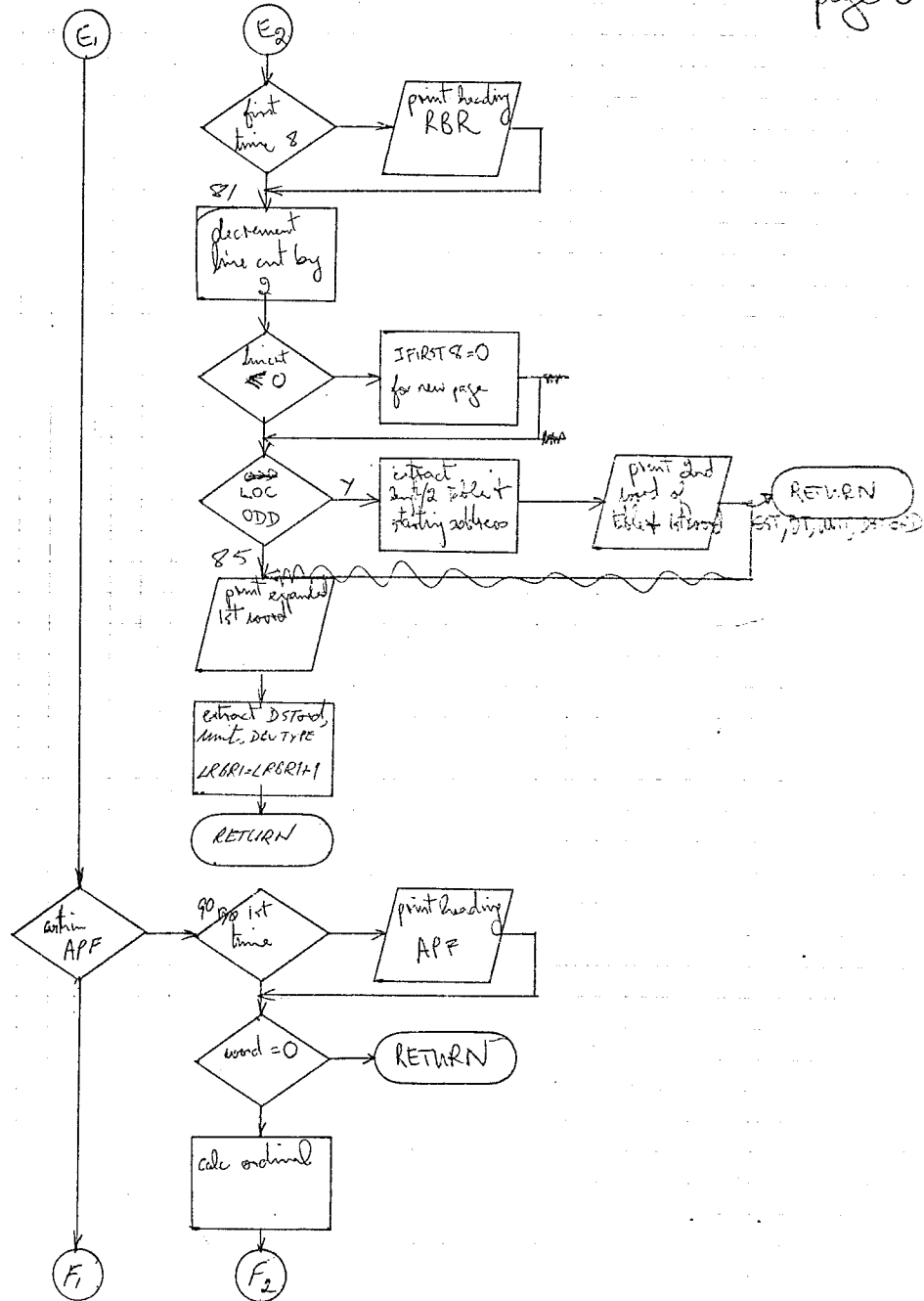
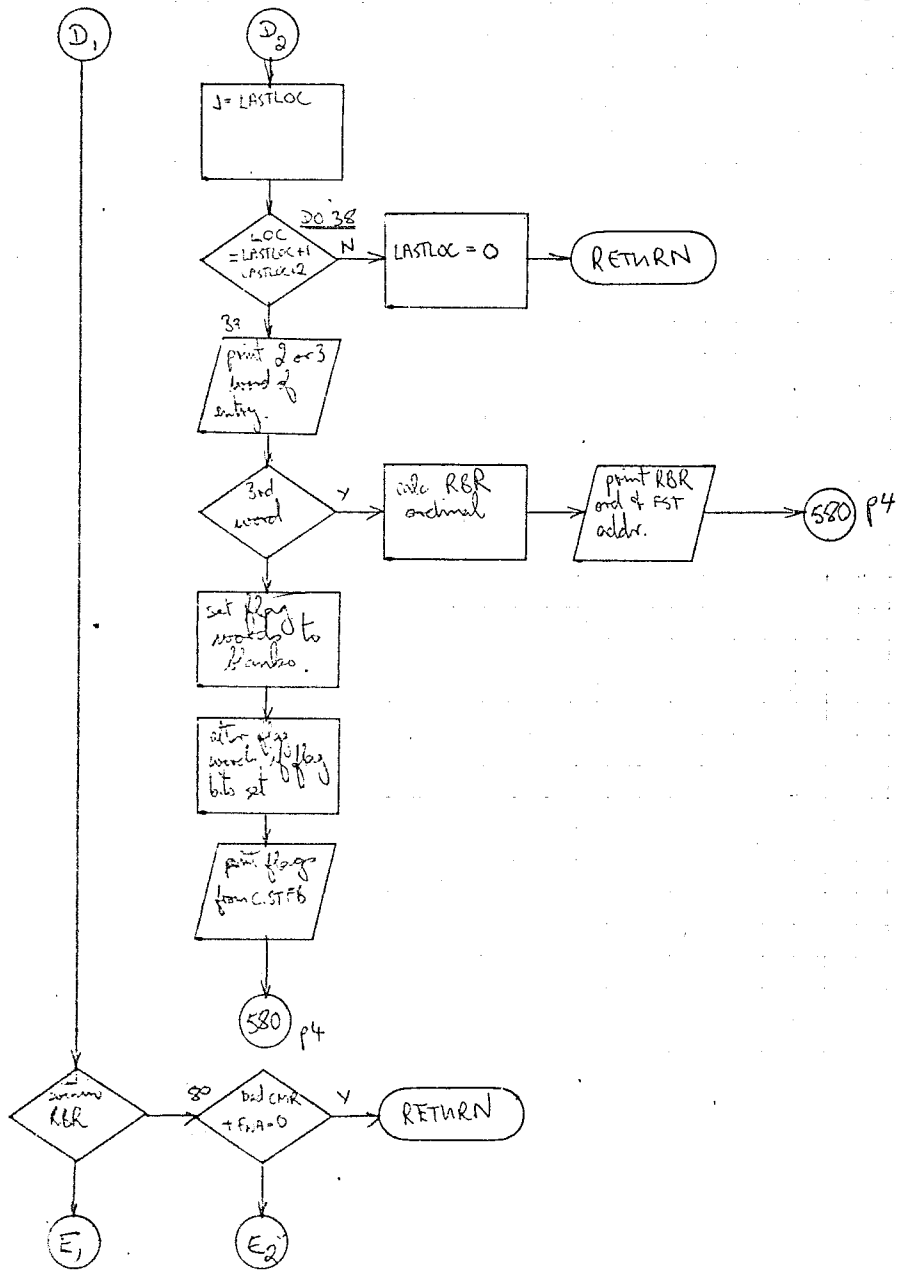


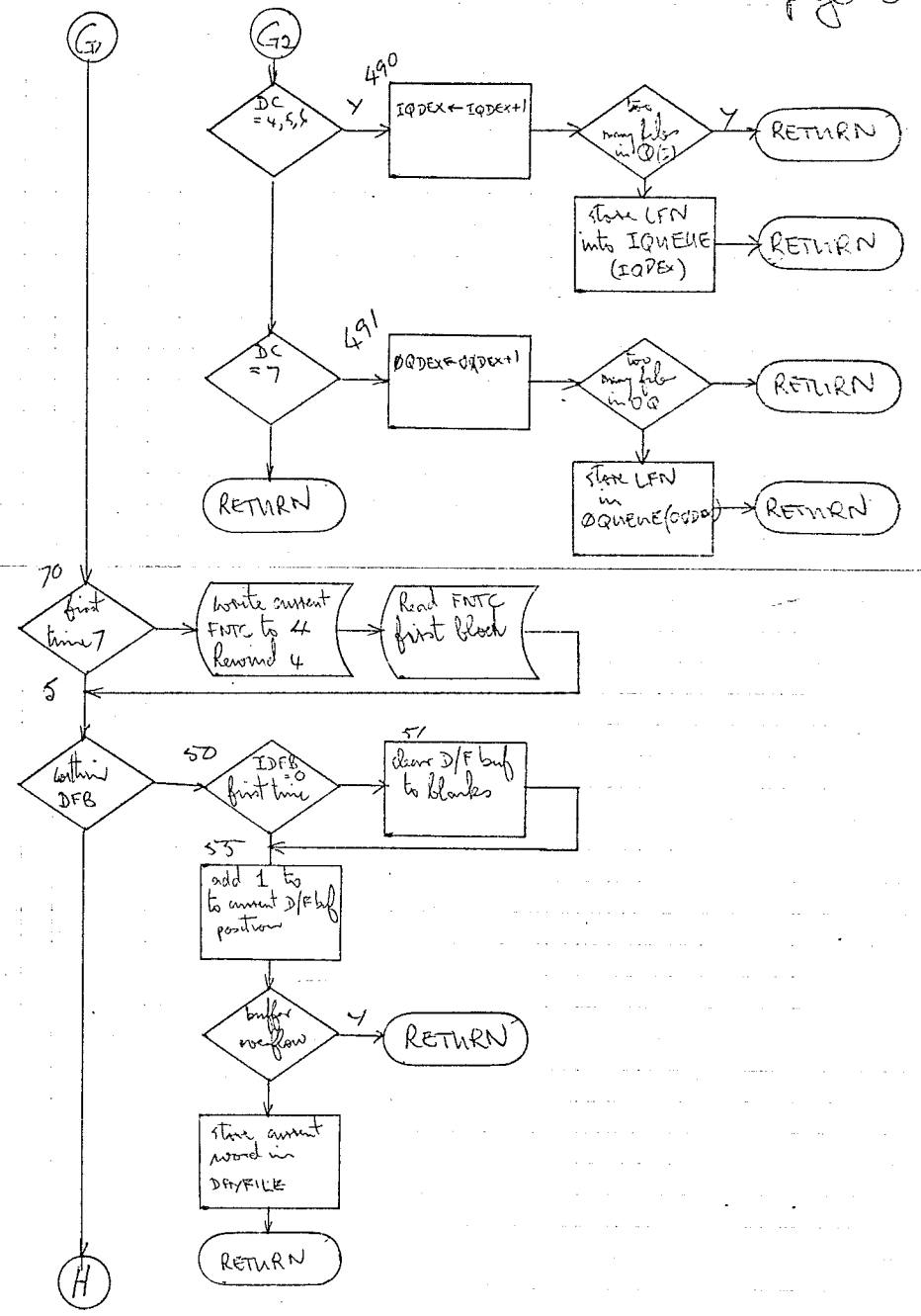
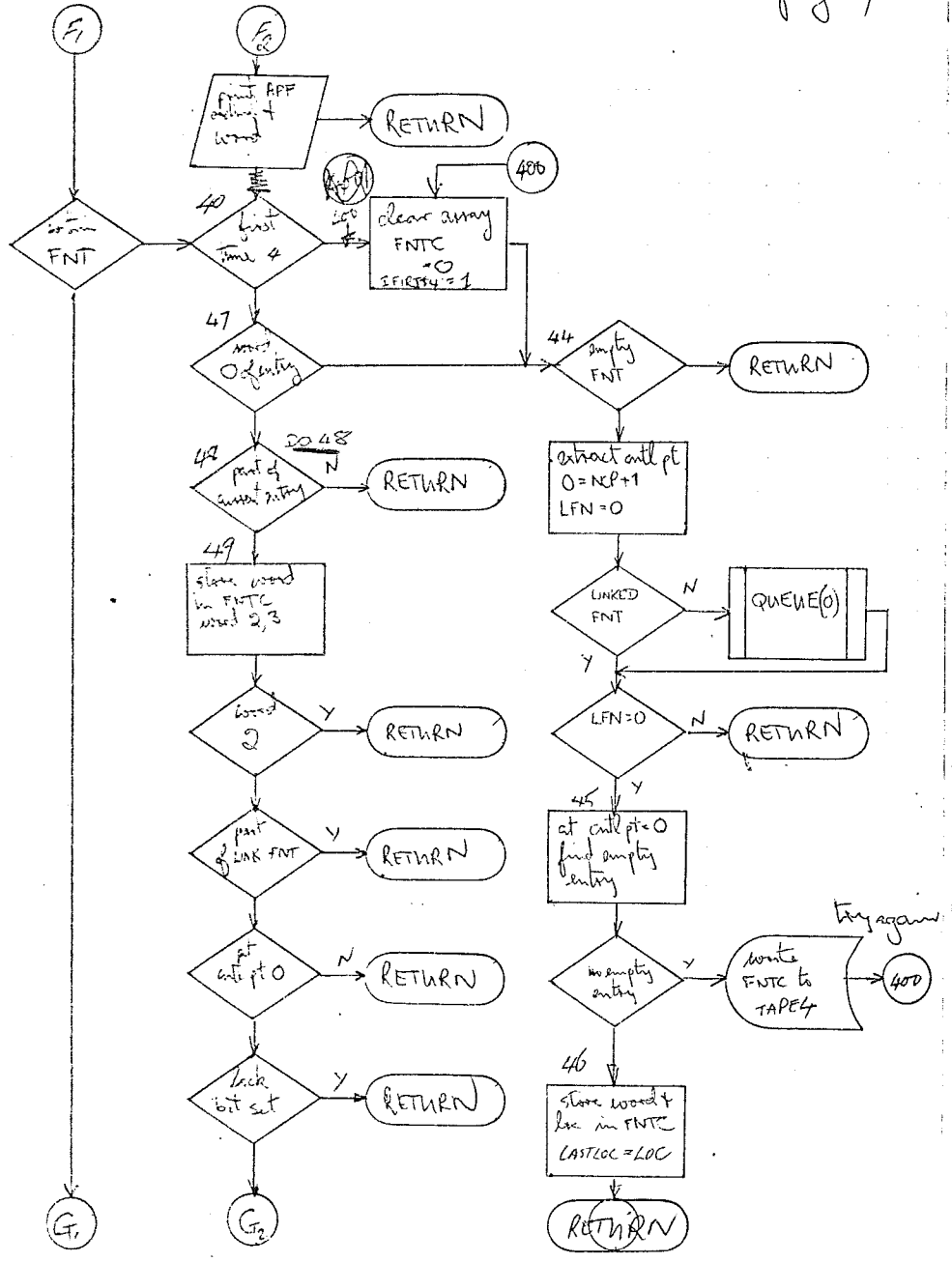












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