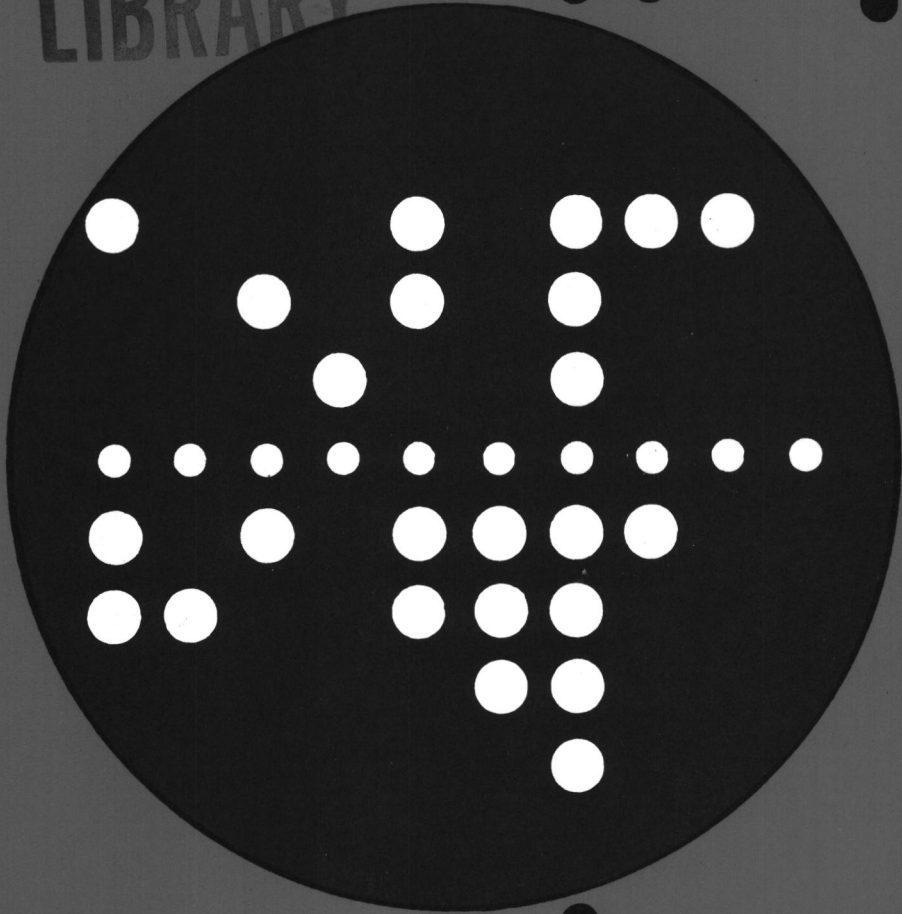


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Computing Centre Newsletter



March 1977 ● No 9

CSE. xv/6

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Note of the Editor

The present Newsletter will be published monthly except for August and December.

The Newsletter will include:

- Developments, changes, uses of installations
- Announcements, news and abstracts on initiatives and accomplishments.

The Editor thanks in advance those who will want to contribute to the Newsletter by sending articles in English or French to one of the following persons of the Editorial Board.

Note de la Rédaction

Le présent Bulletin sera publié mensuellement excepté durant les mois d'août et décembre.

Le Bulletin traitera des:

- Développements, changements et emploi des installations
- Avis, nouvelles et résumés concernant les initiatives et les réalisations.

La Rédaction remercie d'avance ceux qui voudront bien contribuer au Bulletin en envoyant des articles en anglais ou français à l'un des membres du Comité de Rédaction.

Editorial Board / Comité de Rédaction

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H. de Wolde, C.C. Ispra
C. Pigni, C.C. Ispra
J. Pire, C.C. Ispra

Computing Centre References

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Adjoined	A. Pollicini	1882	743
Application Packages	A. Inzaghi	1887	755
Programming Languages	C. van den Muyzenberg	1848	781

Editor : Sylvia R. Gabbai
Layout : Paul De Hoe
Graphical and Printing Workshop, JRC Ispra

The outlines of the Computing Centre

The next pages give a schematic standard information on the Computer Centre. The material is represented mainly as tables. Some of these tables are published only in case of modifications, others show up in each edition of this Newsletter. It is advisable to file this material for reference purposes.

The first two tables specify the hardware configuration, illustrated by the schematic lay-out of the components. The second table might be useful in case your terminal malfunctions; you may consult the list for an equivalent appliance close to hand.

The software components are specified very shortly. Our intention is to discuss each of these items in the edition of this Newsletter.

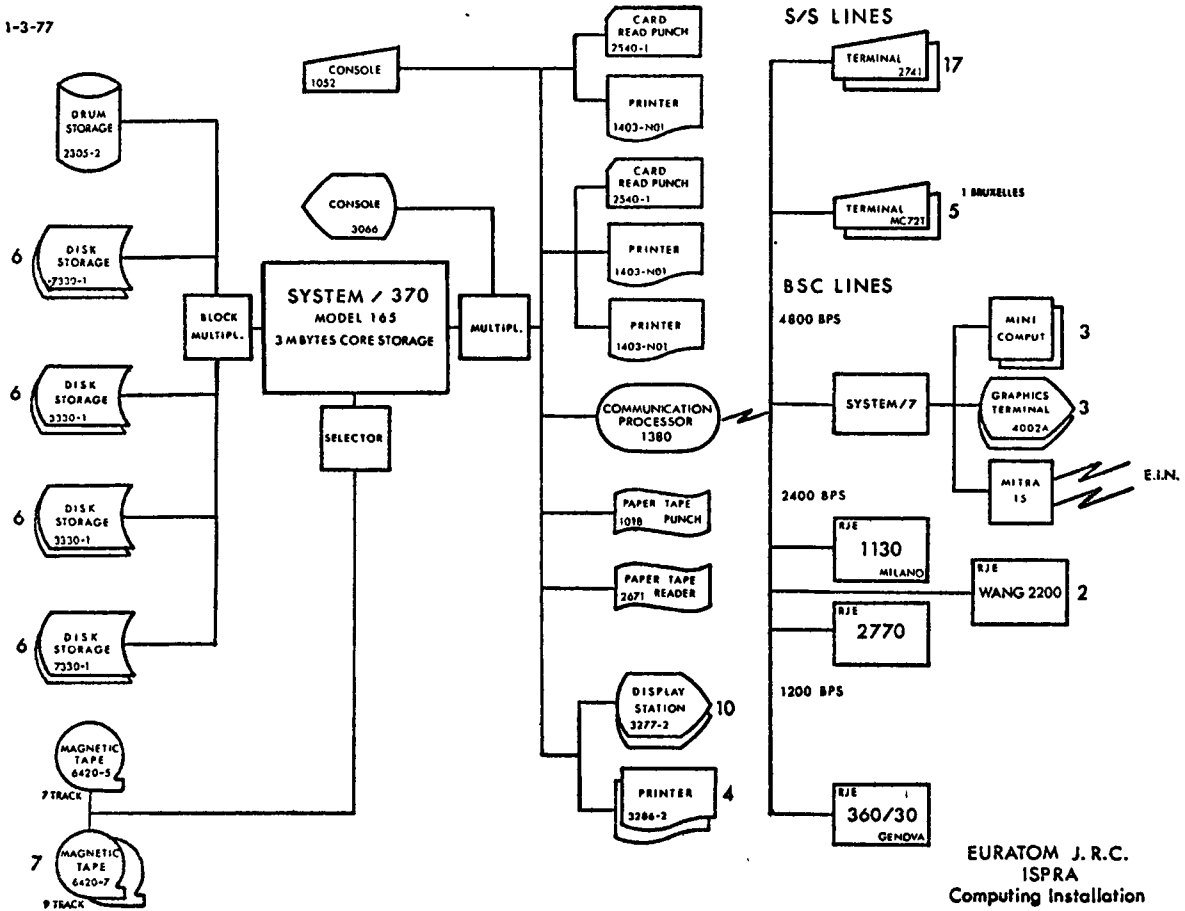
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1-3-77



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Layout of Hardware Components

EURATOM J. R. C.
ISPRA
Computing Installation

COMPUTING INSTALLATION DESCRIPTION
HARDWARE COMPONENTS

N	Type	Unit	Model	Function description
1 5	IBM TELEX	3165 6360	KJ 5	Central Processing Unit Processing Storage (3 MB) Total central storage capacity 3 Megabytes
1	IBM	2880	2	Block multiplexor channel
1	IBM	2860	1	Selector channel
1	IBM	2870	1	Byte multiplexor channel with one selector subchannels
				Direct Access Units:
1	IBM	3830	2	Storage control
2	IBM	3333	1	Disk storage and control
4	IBM	3330	1	Disk storage
				Total 12 disk storage units (track length 13030 bytes)
2	ITEL-	7830	1	Storage control
12	ITEL-	7330	1	Disk storage
				Total 12 disk storage units (track length 13030 bytes)
1	IBM	2835	2	Storage control
1	IBM	2305	2	Fixed head storage (track length 14660 bytes)
				Magnetic Tapes:
1	TELEX	6803	1	Tape control unit
7	TELEX	6420	7	Magnetic tape unit (9 tracks density 800/1600 bpi)
1	TELEX	6420	5	Magnetic tape unit (7 tracks density 200/556/800 bpi)

1	IBM	2821	5	Peripheral Units: Control unit	
2	IBM	1403	NO1		Printer
1	IBM	2540	1		Card reader/punch
1	IBM	2821	1		Control unit
1	IBM	1403	NO1		Printer
1	IBM	2540	1		Card reader/punch
1	IBM	2822	1		Control unit
1	IBM	2671	1		Paper tape reader
1	IBM	2826	1		Paper tape control
1	IBM	1018	1		Paper tape punch
1	IBM	1052	7	Printer keyboard (secondary console)	
1	IBM	3066	1	Display Stations: System console (primary)	
1	IBM	3272	2	Control unit	
10	IBM	3277	2	Display station	
4	IBM	3286	2	Printer	
1	MEMOREX	1380	1	Teleprocessing and RJE Network Communication processor	
20				BSC lines 1200 ÷ 9600 bauds	
24				Start/stop lines with limited distance line adapter	
8				Start/stop lines 134.5 ÷ 1200 bauds	
6				Start/stop lines 1200 ÷ 9600 bauds	
5	IBM	MC72T		Terminals: Communication terminal	
17	IBM	2741	1	Communication terminal	
1	IBM	S/7	E16	Concentrator: Computing system	
				- EIN network connection (MITRA 15)	
				- 3 graphic stations (TEKTRONIX 40xx)	
				- 3 mini-computers (WANG 2200, GA16)	
18	IBM	029	A22	Auxiliary Machines: Printing card punch	
3	IBM	029	C22	Printing card punch interpreter	
4	IBM	129	3	Printing card punch interpreter	
1	IBM	557	1	Alphabetical interpreter	
1	D-MAC			Curve-follower	
1	CALCOMP	900/1136		Graphic output system	

Software Components

- *System:*

Operating System	O.S.MVT 21.8
Spool program	HASP II V.3.1
Teleprocessing	TELEUR (local system)
	IMS/DC V.2.4.1

- *Compilers*:*

Assembler F	
Assembler H V.5.0	
FORTRAN G	
FORTRAN H	
COBOL ANS V.3.2	
Sort/Merge V.1.4	
PL/I Optimizing V.1.2.2	
ALGOL	

- *Special System:*

PMS IV V.1.4	Project Management System
CSMP III V.1.3	Continuous System Modelling Program
MPSX—MIP V.1.6	Mathematical Programming System
DYNAMO II V.4.6	Dynamic Modelling
SIMPL/I V.1.0	Simulation PL/I
ICES—PROJECT 1	Project Engineering Control
ICES—STRUDL 2	Structural Design Language
GENESYS	General Engineering System
SHELTRAN	SHELL TRANSLATOR (Structure FORTRAN precompiler)
FORMAC	PL/I and FORTRAN preprocessor
IMS DB/DC V.2.4.1	Information Management System Data Base/Data Communication
STAIRS	Storage and Information Retrieval System
SIMAS	Software Information Management System
APL V.1.1	A Programming Language
SIMULA 67 V.1.2	Simulation Language

- *Service and utility programs:*

LIBRARIAN	
FILEEDIT—PSQ	
COREA	
OS/DITTO	

* *Libraries: The user can dispose of a library of mathematical programs (algorithm or subroutines), and of a library of problem oriented application programs).*

**Table of Conversational Users Operating
under Internal T.P. or Data/Communication System**

Terminal type	Place Bldg.	U s e r	Station			Operating under	
			Number		Address	TP	IMS/DC
			TP	IMS			
MC72T C	A36	Dept. A					
		Div.Informatics - Eurocopi	27		031	*	
MC72T C	D44	Dept. A					
		Div.Information Analysis & Elab. - ESIS	12		032	*	
MC72T B	D28a	Dir. of Projects					
		BCR	35		033	*	
MC72T B	BRX	D.G. XII					
		BCR Bruxelles	36		034	*	
MC72T B	A36	Dept. A					
		Div. Informatics	38		035	*	
2741 C	A65a	Dept. A					
		Div. Systems Analysis	8		038	*	
2741 C ₁	D44	Dept. C					
		Div. Physics	9		039	*	
2741 C	E84	Dept. B					
		Div. ESSOR	10		03A	*	
2741 C	B51	Dir. of the Site					
		Div.Health Protection	11	4	03B	*	*
2741 C	D72	Dept. B					
		Div.Heat Transfer & Fluid Mechanics	32		03C	*	
2741 C	D68	Dept. B					
		Div. Engineering	13		03D	*	
2741 C	A36	Dept. A					
		Div.Informatics - E.I.N.	14		03E	*	
2741 C	A36	Dept. A					
		Div.Informatics - E.I.N.	15		03F	*	
2741 C	D25	Dept. B					
		Div.Heat Transfer & Fluid Mechanics	16		040	*	
2741 C	A36	Dept. A					
		Div.Informatics	1	3	041	*	*
2741 C	A36	Dept. A					
		Div.Informatics - Eurocopi	23		042	*	
2741 C	A2	Dept. C					
		Div.Chemistry	24		043	*	
2741 C	D69	Dept. B					
		Div.Heat Transfer & Fluid Mechanics	26		044	*	
2741 C	E42	Dept. B					
		Div.Electronics	25		045	*	
2741 P	D28f	Dept. C					
		Div.Materials	17		04C	*	
2741 P	A36	Dept. A					
		Div.Informatics	22		04D	*	
2741 P	A36	O.E.C.D.					
		NEA Computer Progr. Library	34		04F	*	

3277/2	A36	Dept. A Library	4	5	0A0	*	*
3277/2	A36	Dept. A Div.Informatics	5		0A1	*	
3277/2	A36	Dept. A Library	6		0A2	*	
3277/2	A36	Dept. A Div.Informatics - Eurocopi	7	6	0A3	*	*
3277/2	A2	Dept. C Div.Chemistry	33	11	0A4	*	*
3277/2	A36	Dir. of the Site		7	0A5		*
3277/2	A64	Dir. of the Site Div.Adm. & Personnel		8	0A6		*
3277/2	A67	Dir. of the Site Div.Adm. & Personnel		9	0A7		*
3277/2	A36	Dir. of the Site Div.Finance & Budget		13	0A8		*
3277/2	A36	Dept. A Div.Informatics - E.I.N.			0A9		
3286/2	A2	Dept. C Div.Chemistry	33	12	0AA	*	*
3286/2	A64	Dir. of the Site Div.Adm. & Personnel		10	0AB		*
3286/2	A36	Dir. of the Site Div.Finance & Budget		14	0AC		*
3286/2	A36	Dept. A Div.Informatics - E.I.N.			0AD		
IBM MC72T and 2741		22 users (22 TP - 2 IMS/DC)					
IBM 3277/2		10 users (5 TP - 6 IMS/DC)					
IBM 3286/2		4 users (1 TP - 3 IMS/DC)					

Statistics of computing installation utilization

Report of computing installation exploitation for the month of February

	YEAR 1977	YEAR 1976
Number of working days _____	20 d	20.5 d
Work hours from 8.00 to 24.00 for _____	16.00 h	14.00 h
Duration of scheduled maintenance _____	25.16 h	24.47 h
Duration of unexpected maintenance _____	6.66 h	2.83 h
Total maintenance time _____	31.82 h	27.30 h
Total exploitation time _____	288.18 h	259.70 h
CPU time in problem mode _____	106.10 h	111.23 h
Teleprocessing:		
CPU time _____	2.50 h	1.50 h
I/O number _____	348,590	674,000
Equivalent time _____	4.94 h	6.20 h
Elapsed time _____	160.00 h	102.00 h
Batch processing:		
Number of jobs _____	9,555	9,366
Number of cards read _____	2,534,000	2,464,000
Number of cards punched _____	172,000	199,000
Number of lines printed _____	27,233,000	25,717,000
Number of pages printed _____	600,000	579,000

BATCH PROCESSING DISTRIBUTION BY REQUESTED CORE MEMORY SIZE

	100	200	300	400	600	800	1000	1400	total
Number of jobs	2406	3346	2244	973	195	88	19	-	9271
Elapsed time (hrs)	57	157	152	132	31	22	3	-	554
CPU time (hrs)	2.9	24	24	29	11	11	0.6	-	102
Equivalent time (hrs)	18	58	58	66	15	15	1.5	-	231
Turn around time (hrs)	0.5	0.8	1.3	2.9	2.1	2.7	2.9	-	1.1

PERCENTAGE OF JOBS FINISHED IN LESS THAN

TIME	15'	30'	1h	2h	4h	8h	1D	2D	3D	6D
% year 1976	24.2	40.6	55.7	69.6	83.5	96.3	98.4	98.9	99.4	100
% year 1977	37.2	56.0	74.4	87.5	96.2	98.8	99.5	99.6	99.9	100

Utilisation of computer center by the objectives and appropriation accounts for the month of February

**IBM 370/165
equivalent time in hours**

1.20.2	General Services - Administration-Ispra	72.25
1.20.3	General Services - Technical-Ispra	1.60
1.30.4	LMA	0.06
1.50.3	Department B (EFA)	1.38
1.90.0	ESSOR	7.21
1.92.0	Support to the Commission	2.51
2.10.1	Reactor Safety	51.41
2.10.2	Plutonium Fuel and Actinide Research	0.90
2.10.3	Nuclear Materials	2.62
2.20.1	Solar Energy	0.88
2.20.2	Hydrogen	0.34
2.20.4	Design Studies on Thermonuclear Fusion	2.35
2.30.0	Environment and Resources	25.07
2.40.0	METRE	2.36
2.50.1	Data Processing	46.10
2.50.3	Safeguards	1.35
	TOTAL	218.40
1.94.0	Services to external Users	14.52
	TOTAL	232.92

Example of the Implementation of a Data Base under STAIRS

S. Perschke, G. Fattori, L. Costantini

Introduction

At present, two data bases are being implemented under STAIRS for experimental purposes:

- INIS (International Nuclear Information System)
- ECDIN (Environmental Chemical Data Bank)

the former in connection with the automatic indexing effectiveness assessment project, the latter in the context of the support function of Dept. A to the data bank projects in Ispra.

For the conversion of the external (exchange) format into the format requested by STAIRS for input (EDIO), the structuring of the data and the definition of the searchable items, formatted fields and layout of the display, we use the system SLC-II developed for advanced language processing applications ¹⁾.

Data Structuring

As was pointed out in the precedent article (Nov. 76), STAIRS permits to subdivide an object (document) into 3 levels: Document - Paragraph - Sentence.

As the first step in the implementation of the data base, one has to examine the data and to specify:

- the subdivision of each document into paragraphs and sentences;
- the strings to become access keys (through the inverted file);
- the formatted fields.

This information is implicitly reflected in the records of the EDIO and explicitly in the data base definition (DBCB). For the INIS data base, we have first taken over the solution adopted by the INIS secretariat in Vienna: all bibliographic elements of the INIS format made searchable and displayed (c.f. Fig. 1).

1) c.f. S. Perschke et al.: The SLC System Language Translation Packages
– Concepts and Facilities – EUR 5116.e (1974)

For the purpose of the automatic indexing project, only the descriptors (intellectually and automatically assigned) will be made searchable (all other paragraphs will be stopped for inversion) and only reference number, title and abstract will be displayed.

A typical example of an INIS record is.

DOCUMENT NUMBER = INI000258532

NUMABST = 01
 NUMSPL = 01
 PBLYEAR = 1975
 PSUBCAT = A14
 RECORDNR = 258532
 SSUBCAT1 = A14
 SSUBCAT2 = A14
 VGLISS = 0717

Fig. 1 — Example of INIS document structure

COUNTRY	JP
TYPE	R
BIB LEVELS	M
LANGUAGE	ENGLISH
AUTHOR	KAKO, MASASHI HASEGAWA, AKIRA.
CORPORATE	NAGOYA UNIV. (JAPAN), INST. OF PLASMA PHYSICS.
TITLE	STABILITY OF OBLIQUE MODULATION ON ION ACOUSTIC WAVE.
PUBLICATION	JUN 1975.
REP/PAT	IPPJ--223.
COLLATION	11 P.
ABSTRACT	ENGLISH. MODULATION ON AN ION ACOUSTIC WAVE IS SHOWN TO BE UNSTABLE IN A DIRECTION OBLIQUE TO THAT OF THE WAVE PHASE VELOCITY. (AUTH.).
MANUAL	AMPLITUDES ANALYTICAL SOLUTION DISPERSION RELATIONS ION ACOUSTIC WAVES MODULATION NONLINEAR PROBLEMS PLASMA PLASMA DENSITY SCHRÖDINGER EQUATION. DIFFERENTIAL EQUATIONS EQUATIONS ION WAVES PLASMA WAVES.

The data structure of ECDIN is much more complicated. So far, only part of the data fields, those relative to the identification (names) and to the toxicological data have been prepared for input.

For ECDIN the following elements have been made searchable

- For the names, on the one hand, the exact spelling, e.g. 1.1.2 - TRICHLOROETHENE, on the other hand, the single component which can be identified through string analysis and dictionary search by the SLC-II system, e.g. for the above example: TRI, CLORO, ETHENE.
- For the toxicological data the keywords assigned by the analyst and on the other hand the non-trivial words of the abstracts.

The processing of the other data fields is being prepared.

Log on/off and Selection of Data Base

STAIRS is operating under the control of IMS/DC for which it is identified as a single transaction in a batch message region and can be made available in the hours in which IMS is located.

To activate STAIRS (once the program is located and the bridge to IMS has been established) one has to type on the terminal:

/FOR STAIRS

As subsequent operation one must identify oneself to the system through the command:

AQUA password, user name.

To close a search session, it is sufficient to try the command:

..OFF

which makes the terminal available for an other user.

If one is authorized, one is invited to select the data base one wants to search.

STAIRS Functions

STAIRS commands can be subdivided into the following:

Search functions with the commands:

..SEARCH	for inverted file search
..SELECT	for formatted fields
..PURGE	for deleting queries
..SAVE	for recording and
..EXEC	re-execution of a search session
..RANK/SORT	for ordering the search results by particular criteria

Display of the search results with:

..DISPLAY	for visualizing a query (or all of them)
..BROWSE	for displaying documents retrieved
..PRINT	to print documents on an associated line printer
..MAIL	to print the search results off-line

Prompting functions

..HELP	which explains in detail all the functions of the system.
--------	---

A number of commands has additional prompting functions, for instance EXPLAIN for ..BROWSE and ..SELECT.

Example of STAIRS On-Line Session

AQUA COST
ENTER DATA NAME
INIS
..SEARCH
 AQUARIUS – SEARCH MODE – BEGIN YOUR QUERY
 AFTER THE STATEMENT NUMBER
00001
'ION COLLISIONS'
 RESULT 63 OCCURRENCES 49 DOCUMENTS
..SEARCH
 AQUARIUS – SEARCH MODE – BEGIN YOUR QUERY
 AFTER THE STATEMENT NUMBER
00002
'CHARGED PARTICLES' ADJ COLLISIONS
 RESULT 47 OCCURRENCES 33 DOCUMENTS
..SEARCH
 AQUARIUS – SEARCH MODE – BEGIN YOUR QUERY
 AFTER THE STATEMENT NUMBER
00003
'ORGANIC COMPOUNDS'
 RESULT 9 OCCURRENCES 9 DOCUMENTS
..SEARCH
 AQUARIUS – SEARCH MODE – BEGIN YOUR QUERY
 AFTER THE STATEMENT NUMBER
00004
(1 OR 2) AND 3
 RESULT 1 OCCURRENCE 1 DOCUMENT
..BROWSE
 AQUARIUS – BROWSE MODE – RETURN TO CONTINUE,
 OR ENTER ALL, A, B, PRINT-SPECS, EXPLAIN, OR A
 DOC-REQUEST
ALL

NUMABST = 01
 NUMSPL = 01
 PBLYEAR = 1976
 PSUBCAT = A12
 RECORDNR = 258287
 SSUBCAT1 = A12
 SSUBCAT2 = A12
 VOLISS = 0717

COUNTRY US
 TYPE J
 BIB LEVELS AS
 LANGUAGE ENGLISH
 AUTHOR LYNCH, D.J., TOBUREN, L.H., WILSON, W.E.
 (BATTELLE NORTHWEST LABORATORIES, RICHLAND
 WASHINGTON 99352)

TITLE ELECTRON EMISSION FROM METHANE, AMMONIA,
 MONOMETHYLAMINE, AND DIMETHYLAMINE BY 0.25
 TO 2.0 MEV PROTONS.

JOURNAL TITLE J. CHEM. PHYS.
 PUBLICATION (15 MAR 1976)
 ABSTRACT ENGLISH.
 ABSOLUTE CROSS SECTIONS, DIFFERENTIAL IN
 ELECTRON ENERGY AND EMISSION ANGLE, HAVE BEEN
 MEASURED FOR EJECTION OF ELECTRONS FROM METHANE,
 AMMONIA, MONOMETHYLAMINE, AND DIMETHYLAMINE BY
 0.25 TO 2.0 MEV PROTONS. ELECTRON ENERGY
 DISTRIBUTIONS ARE PRESENTED FOR 12 EMISSION
 ANGLES BETWEEN 15DEGREE AND 1250DEGREE. THE
 RESULTS INDICATE THAT EMISSION CROSS SECTIONS
 FOR ELECTRONS EJECTED WITH ENERGY GREATER THAN
 ABOUT 1 EV SHOW NO EFFECTS RELATED TO MOLECULAR
 STRUCTURE FOR THIS GROUP OF MOLECULES, WITHIN
 EXPERIMENTAL UNCERTAINTY. THE DOUBLE -
 DIFFERENTIAL CROSS SECTIONS ARE FOUND TO BE
 SCALABLE IN TERMS OF THE NUMBER OF WEAKLY BOUND
 ELECTRONS PER MOLECULE. TOTAL IONIZATION CROSS
 SECTIONS ARE DETERMINED BY INTEGRATION OF THE
 DOUBLE - DIFFERENTIAL CROSS SECTIONS WITH
 RESPECT TO ENERGY AND ANGLE. THE RESULTS ARE
 COMPARED WITH THE RESULTS FOR OTHER LOW-Z
 POLYATOMIC MOLECULES, AND ALSO IN THE CASE OF
 METHANE, WITH RESULTS FROM ELECTRON IMPACT
 IONIZATION.

MANUAL AMINES AMMONIA CROSS SECTIONS ELECTRON EMISSION
 ENERGY SPECTRA HYDROGEN IONS 1 PLUS ION-MOLECULE
 COLLISIONS IONIZATION METHANE MEV RANGE 01-10
 PROTONS. ALKANES BARYONS CATIONS CHARGED
 PARTICLES COLLISIONS ELEMENTARY PARTICLES
 EMISSION ENERGY RANGE FERMIONS HADRONS HYDRIDES
 HYDROCARBONS HYDROGEN COMPOUNDS HYDROGEN IONS
 ION COLLISIONS IONS MEV RANGE MOLECULE COLLISIONS
 NITROGEN COMPOUNDS NITROGEN HYDRIDES NUCLEONS
 ORGANIC COMPOUNDS SPECTA.

Macro Instructions to Facilitate Testing

C.L. van den Muyzenberg

When testing a program, it is frequently desirable to print some intermediate data to find the source of a wrong result. Inserting print statements is usually the method used. There are several drawbacks however:

1. the normal program output is mixed with the test output making the real results hard to find and making a mess out of the layout of the results
2. intermediate data is used only if there is an error to be checked, otherwise it is just a big pack of useless paper
3. when the program is corrected, the cards have to be eliminated from the card deck.

The method proposed here will avoid all 3 drawbacks. The catalogued procedure PLPCLGS permits the use of several standard macro libraries as well as user macro libraries. To print intermediate results the standard module PUTDUMP is used.

ex.

```
// EXEC PLPCLGS
//CMP.SYSIN DD *
*PROCESS M;
%INCLUDE PUTDUMP;    or    //INCLUDE PUTDUMP;
```

PROGRAM

The %INCLUDE PUTDUMP; statement will include the definitions of the DUMP macros in the input for the compiler. The following macros may be used.

```
DCLDUMP
LISTDUMP
DATADUMP
PUTDUMP
SETDUMP
ACTDUMP
```

DCLDMP will declare a dumpfile to be used for writing intermediate results, and a numerical variable that will be printed.

syntax: [([ddname,variable])];

ex.

DCLDUMP } declaration of the default dumpdataset
DCLDUMP() } DUMPFIL and the default variable DUMPVAR
DCLDUMP(DUMP,VAR) declaration of the dumpdata-
set DUMP and the variable VAR

If a dump ddname other than DUMPFIL is used, the corresponding DD card must be added in the GO step

ex. //GO.DUMP DD SYSOUT=A,DCB=BLOCKSIZE=133

- LISTDUMP** is used to write values in LIST mode on the dump file
syntax: LISTDUMP (([value [,value]...]));
ex. LISTDUMP (('THIS IS PRINTED',I,A*B+C));
the output will be: THIS IS PRINTED followed by the value of I and the value of A*B+C
- DATADUMP** is similar to LISTDUMP but prints in DATA mode (variable name = value, constants and expressions are **not** permitted)
syntax: DATADUMP (([variable [,variable]...]));
ex. DATADUMP ((ARRAY1,I,J,P(15),B(L,K)));
- PUTDUMP** will print a character string after skipping a number of lines, followed by another skip
syntax: PUTDUMP([([skipbefore , string , skipafter]]);
a preceding missing variable must be indicated by a comma.
Permitted values for skipbefore and skipafter are. 0 to No. of lines per page, P (=newpage).
The string must be enclosed in quotes if it contains a comma.
- ex. PUTDUMP will give a skip of skipbefore lines (default = 5)
PUTDUMP(3) will give a skip of 3 lines and will change the value of skipbefore to 3
PUTDUMP(3,THIS WILL BE PRINTED ,P) will give a skip of skipbefore lines (changed to 3 by PUTDUMP(3)), will print THIS WILL BE PRINTED, will skip to a new page (P) and will set the value of skipafter to P.

SETDUMP gives the possibility of changing the value of the dump variable (the value is automatically incremented by 1 after every LISTDUMP or DATADUMP) and permits also to change the names of the dumpdataset and the dumpvariable, and the value of the skip made before each dumpline (default=2). Changing the value of the dumpvariable permits to distinguish different parts of the program; changing the name of the dumpdataset and the dumpvariable permits the use of several dumpdatasets.

syntax: SETDUMP ([value,ddname,variable,dumpskip]);

a preceding missing variable must be indicated by a comma. If a parameter is missing, the corresponding variable is not changed. The order of evaluation is ddname, variable, value, dumpskip.

ex. SETDUMP(10*1); will set the active dumpvariable to 10*1

SETDUMP(2000,DUMP4,VAR3,5); will change the name of the active dumpdataset to DUMP4, changes the name of the active dumpvariable to VAR3, assigns the value 2000 to VAR3, and changes the value of the skip before each dump line to 5.

N.B. A ddname or variable used in a SETDUMP statement must be declared previously in a DCLDUMP statement.

ACTDUMP permits the selective inclusion of DUMP statements in the program

syntax: ACTDUMP({ 0 | 1 }) [;] default is 1

ex.

```

.....
LISTDUMP(('AAA',K));
.....
ACTDUMP(0)
.....
DATADUMP((I,J));
.....
ACTDUMP(1)
.....
DATADUMP((K,L,M));

```

All DUMP statements between ACTDUMP(0) and ACTDUMP(1) are not compiled, all other DUMP statements and the non-DUMP statements between ACTDUMP(0) and ACTDUMP(1) will be compiled.

If a program part is tested, it is sufficient to put an ACTDUMP(0) statement before it and an ACTDUMP(1) statement after it to exclude the DUMP statements from compilation.

If a separately compiled procedure is tested, an ACTDUMP(0) statement at the begin will exclude all DUMP statements from compilation.

ex.

```
*PROCESS M;  
AA:PROC OPTIONS(MAIN);  
%INCLUDE PUTDUMP;  
ACTDUMP(0)  
DCLDUMF( );  
GET LIST(N);  
DATADUMP( (N) );  
DO I=1 TO N;  
    PUT LIST(I,SIND(I),COSD(I));  
    LISTDUMP ((SIND(I)**2+COSD(I)**2));  
    END;  
END AA;
```

will be compiled as:

```
AA:PROC OPTIONS(MAIN);  
GET LIST(N);  
DO I=1 TO N;  
    PUT LIST (I,SIND(I),COSD(I));  
    END;  
AND AA;
```

Catalogued Procedure PLPCLGS

The description of this procedure was given in Newsletter No. 5. The procedure is modified and does now contain the libraries necessary for the use of the sort program (PLISORT).

3 workdatasets are defined (SORTWK01, SORTWK02, SORTWK03). The SPACE parameter is for all 3 datasets defined as:

```
SPACE = (&SOTY,(&SOQ1, &SOQ2))
```

with

```
SOTY = CYL
```

```
SOQ1 = '1,1'
```

```
SOQ2 = (empty)
```

giving after substitution

```
SPACE = (CYL,(1,1) )
```

To change the values, specify the relative parameters and their values in the EXEC statement.

Example

To compile, link and go a program on cards using sort input data on dataset SORTIN and using 100 tracks on each work dataset, the JCL cards would be:

```
// EXEC PLPCLGS,SOTY=TRK,SOQ1=100
```

```
//CMP.SYSIN DD *
```

```
PROGRAM
```

```
/*
```

```
//GO.SORTIN DD definition of the dataset
```

```
//GO.SYSIN DD *
```

```
CARD  
INPUT DATA
```

```
/*
```


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