

Appendix I

SAMPLE JOB LISTING

```
//SIMT JOB (7254,99999942000000,1,6),'NCC',MSGLEVEL=(1,0), JOB 280
// CLASS=C,REGION=110K,TIME=3
***      *** INVOKE SIMCG PROCEDURE ***
***
//      EXEC SIMCG,GOPARM='LINECNT=40,TRACE=200' 1)
++SIMCG  PROC EXLIB=SIMLIB,GOPARM= 1)
++SIM    EXEC PGM=SIMULA,PARM='LINECNT=40,XREF',REGION=110K 2)
++STEPLIB DD DSN=SIMULA.SIMULA,DISP=SHR 2)
++SYSPRINT DD SYSOUT=A 2)
++SYSUT1 DD UNIT=SYSDA,SPACE=(2000,(20,20)) 2)
++SYSUT2 DD UNIT=(SYSDA,SEP=SYSUT1),SPACE=(2000,(20,20)) 2)
++SYSUT3 DD UNIT=(SYSDA,SEP=(SYSUT1,SYSUT2)),SPACE=(2000,(20,10)) 2)
++SYSUT4 DD UNIT=(SYSDA,SEP=(SYSUT1,SYSUT2)),SPACE=(1032,256), 2)
++      DCB=DSORG=DA 2)
++SYSGO DD DSN=##LOADSET,DISP=(MOD,PASS),UNIT=(SYSDA,SEP=SYSUT1), 2)
++      SPACE=(1600,(30,30)),DCB=BLKSIZE=1600 2)
//SIM.SYSIN DD * 2)
                                     3)
++GO      EXEC PGM=LOADER,PARM='MAP,PRINT,LET,PR=ZYQENT/&GOPARM',
IEF6531 SUBSTITUTION JCL - PGM=LOADER,PARM='MAP,PRINT,LET,
++      EP=ZYQENT/LINECNT=40,TRACE=200',
++      COND=(4,LT,SIM) 4)
++SYSLIN DD DSN=##LOADSET,DISP=(OLD,PASS) 4)
++SYSLIB DD DSN=##EXLIB,DISP=SHR 4)
IEF6531 SUBSTITUTION JCL - DSN=SIMLIB,DISP=SHR 4)
++      DD DSN=SIMLIB,DISP=SHR 4)
++SYSLOUT DD SYSOUT=A 4)
++SYSOUT DD SYSOUT=A 4)
//GO.SYSIN DD * 4)
                                     5)
                                     5)
                                     5)

IEF3751 JOB /SIMT / START 71077.1315
IEF3761 JOB /SIMT / STOP 71077.1316 CPU OMIN 05.08SEC
```

-- HASP-II JOB STATISTICS --

```
118 CARDS READ
279 LINES PRINTED
0 CARDS PUNCHED
2.49 MINUTES EXECUTION TIME
```

- 1) Invoke JCL proc SIMCG
- 2) Compilation step: Compile SIMULA program, print cross-reference listing
- 3) SIMULA source program on cards
- 4) Execution step: link, edit and execute SIMULA program using LOADER. Specify object program parameters and run-time routine library
- 5) Input data to SIMULA program cards

COMPILER OPTIONS

NOLIST		1)
NODECK		1)
LOAD		1)
WARN		1)
SUBCHK		1)
NOEXTERN		1)
XREF		1)
SOURCE		1)
NORESWD		1)
LINECNT =	40	1)
MAXERROR=	10	1)
SIZE =	(3072,1632,8192,4096,262144,7294)	1)

1) Compiler options and parameter values in effect

```

*)
01 SIMSET
02 BEGIN CLASS RUNE(T,PART,SECTION);VALUE T;INTEGER PART; B1
03     REAL SECTION; TEXT T;
04     BEGIN REF(RUNE)LL,RL; B2
05     REF(HEAD)PTR;
06     PROCEDURE RANK;
07     BEGIN REF(RUNE)ROOT; B3
08     ROOT:=-ROOT;
09     SCAN: IF ROOT.T=T THEN NEW PAGE(PART,SECTION).INTO(ROOT.PTR)
10     ELSE BEGIN IF ROOT.T>T THEN B4
11         BEGIN IF ROOT.LL==NONE THEN B5
12             BEGIN ROOT.LL:=THIS RUNE; B6
13             NEW PAGE(PART,SECTION)
14             .INTO(PTR);
15         END ELSE E6
16             BEGIN ROOT:=-ROOT.LL; B7
17             GOTO SCAN;
18         END E7
19     END E5
20     ELSE
21     BEGIN IF ROOT.RL==NONE THEN B8
22         BEGIN ROOT.RL:=THIS RUNE; B9
23         NEW PAGE(PART,SECTION)
24         .INTO(PTR);
25     END ELSE E9
26     BEGIN ROOT:=-ROOT.RL; B10
27     GOTO SCAN;
28     END E10
29     END E8
30     END E4
31     END***RANK***; E3
32     PTR:=-NEW HEAD;
33     END***RUNE***; E2
34     PROCEDURE TRAVERSE(7);REF(RUNE)7;
35     BEGIN REF(PAGE)X; B11
36     INSPECT Z DO
37     BEGIN TRAVERSE(LL); B12
38     OUTTEXT(T); SETPOS(40);

```

```
39      X:=-PTR.FIRST;
40      WHILE X/=NONE DO
41      BEGIN OUTINT(X.PART,1);          B13
42              OUTCHAR(':');
43              OUTFIX(X.SECTION,1,3);
44              OUTCHAR(',');
45              X:=-X.SUC;
46      END;                             E13
47      OUTIMAGE;
48      TRAVERSE(RL);
49  END;                                 E12
50  END***TRAVERSE***;                  E11
51  LINE CLASS PAGE(PART,SECTION); INTEGER PART; REAL SECTION;
52  BEGIN                               B14
53  END***PAGE***;                      E14
54  TEXT WORD,PARTNO,SECTIONNO;
55  REF(RUNE)ROOT;
56  ROOT:=-NEW RUNE("*****",0,0.0);
57  INSPECT SYSIN DO
58  BEGIN WORD:=-IMAGE.SUB(1,40);        B15
59      PARTNO:=-IMAGE.SUB(41,1);
60      SECTIONNO:=-IMAE.SUB(43,30);
61  END**SUB-FIELDS;                    E15
62  INIMAGE;
63  WHILE NOT ENDFILE DO
64  BEGIN NEW RUNE(WORD.STRIP,PARTNO.GETINT,
65      SECTIONNO.GETREAL).RANK; INIMAGE;
66  END;                                 E16
67  TRAVERSE(ROOT);
68  END;                                E1
```

*) begin-end numbering

NO DIAGNOSTICS FOR THIS COMPILATION.

TOTAL NUMBER OF DIFFERENTLY SPELLED IDENTIFIERS AVAILABLE IN
THIS PROGRAM : 129

BASIC SYMBOL	2:2.0,2:3.0,
BRACES	2:3.0,2:4.0,
BRACKET	2:3.0,
CLASS-IDENTIFIER	2:5.0,
DIGIT	2:3.0,
IN	2:5.0,
IS	2:5.0,
KEY WORD	2:2.0,
LETTER	2:3.0,
OBJECT-RELATION	2:5.0,
SIMPLE-OBJECT-EXPRESSION	2:5.0,
SYNTACTIC UNIT	2:3.0,2:5.0,
SYNTACTIC VARIABLE	2:1.0,2:3.0,
*****	0:0.0,