

MM MM AAAAAAAAAA NN NN DDDDDDDDD ## ## P P P P P P P P P P AAAAAAAAAA SSSSSSSSSS  
MMM MMM AAAAAAAAAA NNN NN DDDDDDDDD ## ## P P P P P P P P P P AAAAAAAAAA SSSSSSSSSS  
MMMM MMMM AA AA NNNN NN DD DD ##### PP PP AA AA SS SS  
MM MM MM MM AA AA NN NN NN DD DD ##### PP PP AA AA SS  
MM MMMM MM AA AA NN NN NN DD DD ## ## PP PP AA AA SSS  
MM MM MM AAAAAAAAAA NN NN NN DD DD ## ## P P P P P P P P P P AAAAAAAAAA SSSSSSSS  
MM MM MM AAAAAAAAAA NN NN NN DD DD ## ## P P P P P P P P P P AAAAAAAAAA SSSSSSSS  
MM MM MM AA AA NN NN NN DD DD ## ## PP AA AA SSS  
MM MM MM AA AA NN NN NN DD DD ## ## PP AA AA SSS  
MM MM MM AA AA NN NN NNNN DD DD ##### PP AA AA SSS  
MM MM MM AA AA NN NN NNN DD DD ##### PP AA AA SSS  
MM MM MM AA AA NN NN NN DDDDDDDDD ## ## PP AA AA SSS  
MM MM MM AA AA NN NN N DDDDDDDDD ## ## PP AA AA SSSSSSSSSS  
MM MM MM AA AA NN NN N DDDDDDDDD ## ## PP AA AA SSSSSSSS

JJJJJJJJJ 444 00000000 444 AAAAAAAAAA  
JJJJJJJJJJ 4444 0000000000 4444 AAAAAAAAAA  
JJ 44 44 00 0000 44 44 AA AA  
JJ 44 44 00 00 00 44 44 AA AA  
JJ 44 44 00 00 00 44 44 AA AA  
JJ 444444444444 00 00 00 444444444444 AAAAAAAAAA  
JJ 444444444444 00 00 00 444444444444 AAAAAAAAAA  
JJ 44 00 00 00 44 AA AA  
JJ JJ 44 0000 00 44 AA AA  
JJ JJ 44 000 00 44 AA AA  
JJJJJJJJ 44 0000000000 44 AA AA  
JJJJJJ 44 00000000 44 AA AA

****A	START	JOB	404	MAND#PAS	ROOM	1.06.41	PM	08	JUN	20	PRINTER1	SYS TK4-	JOB	404	START	A****
****A	START	JOB	404	MAND#PAS	ROOM	1.06.41	PM	08	JUN	20	PRINTER1	SYS TK4-	JOB	404	START	A****
****A	START	JOB	404	MAND#PAS	ROOM	1.06.41	PM	08	JUN	20	PRINTER1	SYS TK4-	JOB	404	START	A****
****A	START	JOB	404	MAND#PAS	ROOM	1.06.41	PM	08	JUN	20	PRINTER1	SYS TK4-	JOB	404	START	A****

J E S 2 J O B L O G

13.06.38 JOB 404 IEF677I WARNING MESSAGE(S) FOR JOB MAND#PAS ISSUED  
13.06.38 JOB 404 \$HASP373 MAND#PAS STARTED - INIT 1 - CLASS A - SYS TK4-  
13.06.38 JOB 404 IEF403I MAND#PAS - STARTED - TIME=13.06.38  
13.06.38 JOB 404 CCI001C COMPILE /PASCAL /00:00:00.07/00:00:00/00000/ /MAND#PAS  
13.06.38 JOB 404 CCI001C POSTPROC/ASMPCODE/00:00:00.04/00:00:00/00000/ /MAND#PAS  
13.06.41 JOB 404 CCI001C GO /LOADER /00:00:02.23/00:00:02/00000/ /MAND#PAS  
13.06.41 JOB 404 IEF404I MAND#PAS - ENDED - TIME=13.06.41  
13.06.41 JOB 404 \$HASP395 MAND#PAS ENDED

----- JES2 JOB STATISTICS -----

08 JUN 20 JOB EXECUTION DATE

4 CARDS READ

1,474 SYSOUT PRINT RECORDS

0 SYSOUT PUNCH RECORDS

0.04 MINUTES EXECUTION TIME

1	//MAND#PAS	JOB CLASS=A,MSGCLASS=A,MSGLEVEL=(1,1),NOTIFY=HERC01,	JOB 404
	//	USER=HERC01,PASSWORD=	GENERATED BY IKJEFF10
2	// EXEC PASCG,	PARM.COMPILE='D-,K+',PARM.GO=MAP	
3	XXPASCG PROC	GOTIME=299,GOPARM=,GOREG=2048K,DUMP='DUMMY,',	00010000
	XX	SOUT='*',WORK=VIO,OPT='M+' 1..72 MARGINS	00020000
	***		00030000
	***		00040000
4	XXCOMPILE EXEC	PGM=PASCAL,REGION=8192K,PARM='&OPT'	00050000
5	XXSTEPLIB DD	DSN=PASCAL.PASLIB,DISP=SHR	00060000
6	XXINPUT DD	DDNAME=SYSIN	00070000
7	XXPRD DD	DSN=PASCAL.PASOBJ(PASMSG),DISP=SHR	00080000
8	XXOUTPUT DD	SYSOUT=&SOUT	00090000
9	XXPRR DD	DSN=&&PCODE,UNIT=&WORK,DCB=RECFM=VB,	00100000
	XX	SPACE=(TRK,(20,5),RLSE),DISP=(,PASS)	00110000
10	XXQRR DD	DSN=&&TABLES,UNIT=&WORK,DCB=RECFM=VB,	00120000
	XX	SPACE=(TRK,(5,2),RLSE),DISP=(,PASS)	00130000
	***		00140000
	***		00150000
11	//SYSIN DD	DSN=HERC01.TEST.CNTL(MAND#PAS),DISP=SHR	
12	XXPOSTPROC EXEC	PGM=ASMPCODE,COND=(0,LT,COMPILE),REGION=2048K	00160000
13	XXSTEPLIB DD	DSN=PASCAL.PASLIB,DISP=SHR	00170000
14	XXINPUT DD	DSN=*.COMPILE.PRR,DISP=(OLD,DELETE)	00180000
15	XXPRD DD	DSN=*.COMPILE.QRR,DISP=(OLD,PASS)	00190000
16	XXOUTPUT DD	SYSOUT=&SOUT	00200000
17	XXPRR DD	DSN=&&OBJECT,UNIT=&WORK,DCB=RECFM=FB,	00210000
	XX	SPACE=(TRK,(10,5),RLSE),DISP=(,PASS)	00220000
	***		00230000
	***		00240000
18	XXGO EXEC	PGM=LOADER,COND=((0,LT,COMPILE),(0,LT,POSTPROC)),	00250000
	XX	PARM='//TIME=&GOTIME,&GOPARM',REGION=&GOREG	00260000
19	XXSTEPLIB DD	DSN=PASCAL.PASLIB,DISP=SHR (NEEDED FOR K+ ONLY)	00270000
20	XXSYSLIN DD	DSN=*.POSTPROC.PRR,DISP=(OLD,DELETE)	00280000
21	XXSYSLOUT DD	SYSOUT=&SOUT	00290000
22	XXSYSLIB DD	DISP=SHR,DSN=PASCAL.PASLIB	00300000
23	XX DD	DISP=SHR,DSN=SYS1.FORTLIB	00310000
24	XXINPUT DD	DDNAME=SYSIN	00320000
25	XXPRD DD	DUMMY	00330000
26	XXQRD DD	DSN=*.COMPILE.QRR,DISP=(OLD,DELETE)	00340000
27	XXFT06F001 DD	SYSOUT=&SOUT	00350000
28	XXOUTPUT DD	SYSOUT=&SOUT	00360000
29	XXQRR DD	UNIT=&WORK,SPACE=(TRK,(2,2))	00370000
30	XXSYSUDUMP DD	&DUMP.SYSOUT=&SOUT	00380000
	***		00390000

STMT NO. MESSAGE

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4      IEF653I SUBSTITUTION JCL - PGM=PASCAL,REGION=8192K,PARM='M+'
8      IEF653I SUBSTITUTION JCL - SYSOUT=*
9      IEF653I SUBSTITUTION JCL - DSN=88PCODE,UNIT=VIO,DCB=RECFM=VB,
10     IEF653I SUBSTITUTION JCL - DSN=88TABLES,UNIT=VIO,DCB=RECFM=VB,
16     IEF653I SUBSTITUTION JCL - SYSOUT=*
17     IEF653I SUBSTITUTION JCL - DSN=88OBJECT,UNIT=VIO,DCB=RECFM=FB,
18     IEF653I SUBSTITUTION JCL - PARM='//TIME=299,',REGION=2048K
21     IEF653I SUBSTITUTION JCL - SYSOUT=*
27     IEF653I SUBSTITUTION JCL - SYSOUT=*
28     IEF653I SUBSTITUTION JCL - SYSOUT=*
29     IEF653I SUBSTITUTION JCL - UNIT=VIO,SPACE=(TRK,(2,2))
30     IEF653I SUBSTITUTION JCL - DUMMY,SYSOUT=*
30     IEF686I DDNAME REFERRED TO ON DDNAME KEYWORD IN PRIOR STEP WAS NOT RESOLVED
IEF236I ALLOC. FOR MAND#PAS COMPILE
IEF237I 280 ALLOCATED TO STEPLIB
IEF237I 191 ALLOCATED TO SYS00248
IEF237I 280 ALLOCATED TO INPUT
IEF237I 240 ALLOCATED TO SYS00250
IEF237I 290 ALLOCATED TO PRD
IEF237I JES2 ALLOCATED TO OUTPUT
IEF237I VIO ALLOCATED TO PRR
IEF237I VIO ALLOCATED TO QRR
IEF142I MAND#PAS COMPILE - STEP WAS EXECUTED - COND CODE 0000
IEF285I PASCAL.PASLIB KEPT *-----0
IEF285I VOL SER NOS= PUB002.
IEF285I SYS1.UCAT.MVS KEPT *-----0
IEF285I VOL SER NOS= MVSCAT.
IEF285I HERC01.TEST.CNTL KEPT *-----2
IEF285I VOL SER NOS= PUB002.
IEF285I SYS1.UCAT.TSO KEPT *-----0
IEF285I VOL SER NOS= PUB000.
IEF285I PASCAL.PASOBJ KEPT *-----0
IEF285I VOL SER NOS= PUB003.
IEF285I JES2.JOB00404.S00101 SYSOUT
IEF285I SYS20160.T130638.RA000.MAND#PAS.PCODE PASSED *-----2
IEF285I SYS20160.T130638.RA000.MAND#PAS.TABLES PASSED *-----1
IEF373I STEP /COMPILE / START 20160.1306
IEF374I STEP /COMPILE / STOP 20160.1306 CPU OMIN 00.07SEC SRB OMIN 00.00SEC VIRT 4148K SYS 252K
**** JOBCARD READ 20160 13:06:38 ****
* PRC-CCI 370/033 VS2 R03.8 TK4- STEP STATISTICS *
* STEP NAME COMPILE USER CORE 4148K TAPES USED/IO 000/000000000 START TIME 13:06:38 TCB TIME 00:00:00.07 *
* PGM NAME PASCAL SYSTEM CORE 252K DISKS USED/IO 004/000000002 STOP TIME 13:06:38 SRB TIME 00:00:00.00 *
* COND CODE 0000 PRIVATE AREA SZ 8192K ALLOC TIME 13:06:38 ELAPSED TIME 00:00:00 PGM LOAD 13:06:38 *
** PGNO * NR SRV UNITS * ACTIVE TIME *** PAGES IN *** PAGES OUT * # SWAPS * PGS SWAP IN * PGS SWAP OUT * VIO PGS IN * VIO PGS OUT **
* 004 1030 00:00:00.08 0 0 0 0 0 0 0 0 0 4 *
***** VIO IO 000000003 *****
* CPU $ ( 0.02) + EXCP $ ( 0.00) + MEMORY $ ( 0.82) = TOTAL $ ( 0.84) *
*****
IEF236I ALLOC. FOR MAND#PAS POSTPROC
IEF237I 280 ALLOCATED TO STEPLIB
IEF237I 191 ALLOCATED TO SYS00252
IEF237I VIO ALLOCATED TO INPUT
IEF237I VIO ALLOCATED TO PRD
IEF237I JES2 ALLOCATED TO OUTPUT
IEF237I VIO ALLOCATED TO PRR
IEF142I MAND#PAS POSTPROC - STEP WAS EXECUTED - COND CODE 0000
IEF285I PASCAL.PASLIB KEPT *-----0
IEF285I VOL SER NOS= PUB002.
IEF285I SYS1.UCAT.MVS KEPT *-----0
IEF285I VOL SER NOS= MVSCAT.
IEF285I SYS20160.T130638.RA000.MAND#PAS.PCODE DELETED *-----3

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```
IEF285I  SYS20160.T130638.RA000.MAND#PAS.TABLES      PASSED      *-----2
IEF285I  JES2.JOB00404.S00102                          SYSOUT
IEF285I  SYS20160.T130638.RA000.MAND#PAS.OBJECT        PASSED      *-----1
IEF373I  STEP /POSTPROC/ START 20160.1306
IEF374I  STEP /POSTPROC/ STOP 20160.1306 CPU    OMIN 00.04SEC SRB    OMIN 00.00SEC VIRT 2064K SYS 272K
*****
*                                PRC-CCI 370/033 VS2 R03.8 TK4- STEP STATISTICS                                *
*  STEP NAME POSTPROC      USER CORE      2064K  TAPES USED/IO 000/000000000  START  TIME 13:06:38  TCB TIME 00:00:00.04 *
*  PGM  NAME  ASMPCODE     SYSTEM CORE      272K  DISKS USED/IO 002/000000000  STOP   TIME 13:06:38  SRB TIME 00:00:00.00 *
*  COND CODE 0000        PRIVATE AREA SZ  2048K  ALLOC TIME 13:06:38      ELAPSED TIME 00:00:00      PGM LOAD 13:06:38 *
** PGNO * NR SRV UNITS * ACTIVE TIME *** PAGES IN *** PAGES OUT * # SWAPS * PGS SWAP IN * PGS SWAP OUT * VIO PGS IN * VIO PGS OUT **
* 004          397      00:00:00.05          0          0          0          0          0          0          0          2 *
***** VIO IO 000000006 *****
* CPU $ ( 0.01) + EXCP $ ( 0.00) + MEMORY $ ( 0.23) = TOTAL $ ( 0.24) *
*****
IEF236I  ALLOC. FOR MAND#PAS GO
IEF237I  280  ALLOCATED TO STEPLIB
IEF237I  191  ALLOCATED TO SYS00254
IEF237I  VIO  ALLOCATED TO SYSLIN
IEF237I  JES2 ALLOCATED TO SYSLOUT
IEF237I  280  ALLOCATED TO SYSLIB
IEF237I  148  ALLOCATED TO
IEF237I  DMY  ALLOCATED TO INPUT
IEF237I  DMY  ALLOCATED TO PRD
IEF237I  VIO  ALLOCATED TO QRD
IEF237I  JES2 ALLOCATED TO FT06F001
IEF237I  JES2 ALLOCATED TO OUTPUT
IEF237I  VIO  ALLOCATED TO QRR
IEF237I  DMY  ALLOCATED TO SYSUDUMP
IEF142I  MAND#PAS GO - STEP WAS EXECUTED - COND CODE 0000
IEF285I  PASCAL.PASLIB      KEPT      *-----0
IEF285I  VOL SER NOS= PUB002.
IEF285I  SYS1.UCAT.MVS      KEPT      *-----0
IEF285I  VOL SER NOS= MVSCAT.
IEF285I  SYS20160.T130638.RA000.MAND#PAS.OBJECT        DELETED    *-----2
IEF285I  JES2.JOB00404.S00103      SYSOUT
IEF285I  PASCAL.PASLIB      KEPT      *-----14
IEF285I  VOL SER NOS= PUB002.
IEF285I  SYS1.FORTLIB      KEPT      *-----1
IEF285I  VOL SER NOS= MVSRES.
IEF285I  SYS20160.T130638.RA000.MAND#PAS.TABLES        DELETED    *-----2
IEF285I  JES2.JOB00404.S00104      SYSOUT
IEF285I  JES2.JOB00404.S00105      SYSOUT
IEF285I  SYS20160.T130638.RA000.MAND#PAS.R0000001      DELETED    *-----3
IEF373I  STEP /GO          / START 20160.1306
IEF374I  STEP /GO          / STOP 20160.1306 CPU    OMIN 02.23SEC SRB    OMIN 00.00SEC VIRT 2052K SYS 296K
*****
*                                PRC-CCI 370/033 VS2 R03.8 TK4- STEP STATISTICS                                *
*  STEP NAME GO            USER CORE      2052K  TAPES USED/IO 000/000000000  START  TIME 13:06:38  TCB TIME 00:00:02.23 *
*  PGM  NAME  LOADER       SYSTEM CORE      296K  DISKS USED/IO 003/000000015  STOP   TIME 13:06:41  SRB TIME 00:00:00.00 *
*  COND CODE 0000        PRIVATE AREA SZ  2048K  ALLOC TIME 13:06:38      ELAPSED TIME 00:00:02      PGM LOAD 13:06:38 *
** PGNO * NR SRV UNITS * ACTIVE TIME *** PAGES IN *** PAGES OUT * # SWAPS * PGS SWAP IN * PGS SWAP OUT * VIO PGS IN * VIO PGS OUT **
* 004          24879    00:00:02.27          0          0          0          0          0          0          0          2 *
***** VIO IO 000000007 *****
* CPU $ ( 0.80) + EXCP $ ( 0.02) + MEMORY $ ( 13.04) = TOTAL $ ( 13.86) *
*****
IEF375I  JOB /MAND#PAS/ START 20160.1306
IEF376I  JOB /MAND#PAS/ STOP 20160.1306 CPU    OMIN 02.34SEC SRB    OMIN 00.00SEC
```

```

1      ) PROGRAM MANDELBROTSET(OUTPUT); (* POSTER DELLO INSIEME DI MANDELBROT *)
2      ) CONST MAXIT=27; (* NUMERO DI "COLORI" IN REALTÀ CARATTERI *)
3      ) VAR STR:ARRAY[1..MAXIT] OF CHAR; (* TAVOLOZZA DEI COLORI/CARATTERI *)
4      331 1)
5      331 1)  PROCEDURE MANDELBROT(MINRE,MINIM,MAXRE,MAXIM:REAL; STRP:INTEGER);
6      )      LABEL 99; (* EAT YOUR HEART OUT DIJKSTRA *)
7      )      VAR STEPX,STEPY,RE,IM,ZR,ZI,A,B:REAL;
8      184 2)      XSIZE,YSIZE,X,Y,N,S:INTEGER;
9      208 2)      BEGIN
10     )      XSIZE:=131*STRP; (* LE COLONNE VENGONO CONTATE 0..131 *)
11     6 2)      YSIZE:=48*STRP; (* 0..49 RIGHE APPROSSIMANO IL RAPPORTO 3:2 *)
12     10 2)      STEPX:=(MAXRE-MINRE)/XSIZE;
13     17 2)      STEPY:=(MAXIM-MINIM)/YSIZE;
14     24 2)      FOR S:=1 TO STRP (* CICLO PRINCIPALE: QUANTE STRISCIE *)
15     26 2)      DO BEGIN
16     33 2)          FOR Y:=0 TO YSIZE (* CICLO RIGHE *)
17     35 2)          DO BEGIN
18     42 2)              IM:=MINIM+STEPY*Y;
19     49 2)              WRITE(' ');
20     55 2)              FOR X:=132*(S-1) TO 132*S-1 (* CICLO COLONNE *)
21     64 2)              DO BEGIN
22     72 2)                  RE:=MINRE+STEPX*X;
23     79 2)                  ZR:=RE;
24     81 2)                  ZI:=IM;
25     83 2)                  FOR N:=1 TO MAXIT (* CICLO COLORI/CARATTERI *)
26     85 2)                  DO BEGIN
27     92 2)                      A:=ZR*ZR;
28     96 2)                      B:=ZI*ZI;
29     100 2)                      IF(A+B)>4
30     103 2)                      THEN GOTO 99;
31     109 2)                      ZI:=ZR*ZI*2+IM;
32     118 2)                      ZR:=A-B+RE
33     121 2)                  END;
34     132 2)          99:      WRITE(STR[N]:1)
35     143 2)          END;
36     151 2)      WRITELN
37     151 2)      END;
38     163 2)      IF S<STRP (* FINITO UNA STRISCIA, SE NE SEGUONO ALTRE... *)
39     164 2)      THEN WRITELN('1') (* ...INIZIA IN UNA NUOVA PAGINA *)
40     175 2)      END
41     175 2)      END;
42     184 2)
43     ) BEGIN
44     )      STR:='ABCDEFGHIJKLMNOPQRSTUVWXYZ '; (* I COLORI/CARATTERI *)
45     10 1)      (* STAMPA UN RETTANGOLO 3:2 "SPALMATO" SU 5 STRICIE *)
46     10 1)      MANDELBROT(-2,-1,1,1,5)
47     22 1) END.

```

\*\*\*\* NO SYNTAX ERROR(S) DETECTED.

\*\*\*\* 47 LINE(S) READ, 1 PROCEDURE(S) COMPILED,

\*\*\*\* 209 P\_INSTRUCTIONS GENERATED, 0.00 SECONDS IN COMPILATION.

```
****      STANFORD PASCAL POST-PROCESSOR, VERSION OF OCT.-79.  
****      NO ASSEMBLY ERROR(S) DETECTED.  
****      1056 BYTES OF CODE GENERATED,  0.00 SECONDS IN POST_PROCESSING.
```

VS LOADER

OPTIONS USED - PRINT,MAP,NOLET,CALL,RES,NOTERM,SIZE=307200,NAME=\*\*GO

NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR
MANDE001	SD	AC010	\$MAINBLK	SD	AC338	\$PASENT *	SD	AC430	\$PASINT *	LR	AC998	IFYVERRM*	LR	AD062
IHCERRM *	LR	AD062	IHOERRM *	LR	AD062	IHNERRM *	LR	AD062	ERRMON *	LR	AD062	IFYVERRE*	LR	AD096
IHOERRE *	LR	AD096	IHNERRE *	LR	AD096	IHCERRE *	LR	AD096	\$PASCSP *	LR	AD0A0	\$WRADDR *	SD	AE718
\$IDLEN *	SD	AE8C8	\$GETPNAM*	SD	AE958	\$ALIGN *	SD	AEAE8	\$ERRMSG *	SD	AEB30	\$TRANSVA*	SD	AEE38
\$CNVTNUM*	SD	AEEC0	\$PRNT *	SD	AF000	\$IVSCAN *	SD	AFD90	\$PRNTVAR*	SD	B0408	\$FROMLIN*	SD	B0988
\$PRNTLNK*	SD	BOB28	\$PRNTSYS*	SD	B0CE8	SNAPSHOT*	SD	B17C0	#MAINBLK*	SD	B1CC0			

TOTAL LENGTH 5D18  
ENTRY ADDRESS AC430



[illegible]



[illegible]

[illegible]

[illegible]

XW  
SSTUWZ  
OQRT  
NPYTSTUY  
MMOPQVRW

ZY

[illegible]

[illegible]



[illegible]

FFFFGGGGGGGGGHHHIIJJKKKLNONPV RNNMMMMNNR  
 FFFFFFFGGGGGGGGHHIKUNRRNMNPTWS QPPPP0000PPV  
 FFFGGGGGGGGGGGGHHHIIJNRU UT VUSSU TSQQRSUX  
 GGGGGGGGGGGGGHHHIIJJLMQQUZ XX WTTT  
 GGGGGGGGGGGGGHHHIIIIJK RW WX  
 GGGGGGGGGHHHHHHHIIIIJLU QRU Z  
 GGGGGGGHHHHHHHHHIIIIJJKLM UV  
 GGGGGHHHHHHHHHHHIIIIJJKKLOURQRVY  
 GGGGHHHHHHHHHHHIIIIJJJJKKKLMNOPW  
 GGHHHHHHHHHHHHHIIIIJJJJKKKLMMNO  
 HHHHHHHHHHHHHHIIIIJJJJJKKLLMMNOPQSTX  
 HHHHHHHHHHHHHHIIIIJJJJJKLLLMNNNOPQRTVX  
 HHHHHHHHHHHHHHIIIIJJJKL PS POOPQT  
 HHHHHHHHHHIIIIJJJKKLMO SRQRT  
 HHHHHHHHHIIIIJKLMMO V VV UUUX  
 HHHHHHIIIIJJLS T  
 HHHIIIIIIJJJCKMOT  
 IIIIIIIIIJJJKKL SV  
 IIIIIIIJJJJJKKLMPQ X  
 IIIIIJJJJJJJKKLLMNOPQS  
 IIIJJJJJJJJJKKKLLMNOPQRTVZ  
 IIJJJJJJJJJKKLLM TTX  
 JJJJJJJJJJKKLMNOV YXY  
 JJJJJJJKKKL T  
 JJJJJKKKKLMN  
 JKKKKKKKKLLMMO  
 KKKKKKKLLLLMNNPQSUX  
 KKKKLLLLLLMMNOS XY  
 KKLLLLLLLLMNOQ  
 LLLLLLLLMMNR  
 LLLLMMMMNNNORX  
 MMMMMMMMNNNOOPR Z  
 MMMMNNNNNNOPR  
 NNNNNNNNOOP  
 00000000PQRTX  
 000000PPPQR  
 QPPPPPPPPQS  
 RQQQQQQQQRST  
 VSRRRRRRRRTY  
 VTSSSSSTUX  
 ZUTTTTTTV  
 WUUUUUVW  
 XWVVWY  
 YXXX  
 ZZZ

ZZZ  
YXXX  
XWVVWY  
WUUUVW  
ZUTTTTTV  
VTSSSSSTUX  
VSRRRRRRTY  
RQQQQQQRST  
QPPPPPPQ  
000000PPPQR  
0000000PQRTX  
NNNNNNNOOP  
MMMNNNNNOPR  
MMMMMMNNNOOPR Z  
LLLLMMMNNORX  
LLLLLLLLMMNR  
KKLLLLLLLLMNOQ  
KKKKLLLLLMNOS XY  
KKKKKKLLLLMNNPQSUX  
JKKKKKKLLMMO  
JJJJJJKKKLMN  
JJJJJJJKKL T  
JJJJJJJJJKKLMNOV YYXY  
IIJJJJJJJKKLLM TTX  
IIJJJJJJJKKKLLMNOPQRTVZ  
IIIIJJJJJJJKKLLMNOPQS  
IIIIIIJJJJJKKLMPQ X  
IIIIIIJJJJJKKL SV  
HHHIIIIJJKKMOT  
HHHHHHIIIIJLS T  
HHHHHHHHIIIIJKLMMO V VV UUUX  
HHHHHHHHIIIIJJKKLMO SRQRT  
HHHHHHHHHHIIIIJJJKL PS POOPQT  
HHHHHHHHHHHHIIIIJJJKLLLLMNNNOPQRTVX  
HHHHHHHHHHHHIIIIJJJJJKKLLMMNOPQSTX  
GGHHHHHHHHHHIIIIJJJKKKLMMNO  
GGGGHHHHHHHHHHIIIIJJJKKKLMNOPW  
GGGGGGHHHHHHHHIIIIJJJKKLOURQVY  
GGGGGGGGHHHHHHIIIIJKKLM UV  
GGGGGGGGHHHHHHIIIIJLU QRU Z  
GGGGGGGGGGHHHHIIIIJK RW WX  
GGGGGGGGGGHHHHIIJJLMOQUZ XX WTTT  
FFFGGGGGGGGGGHHHJNRU UT VUSSU TSQORSUX  
FFFFFFGGGGGGGGHHIKUNRRNMNPTWS QPPPP0000PPV  
FFFFFFFGGGGGGGHHIJJKKKKLNONPV RONNMMMMNNR  
FFFFFFFFFGGGGGGGHHIIIIJJJKLR Y NMLLLMMNO ZV  
FFFFFFFFFFFFFFFFGGGGGGHHHHHHIIIIJKZQMMYMLKKKLLLMNOP SRSW  
FFFFFFFFFFFFFFFFGGGGGGHHHHHHHHIIIIJJJJJJJKKKKKKLLMMNOOPPQRVVX  
FFFFFFFFFFFFFFFFGGGGGGHHHHHHHHHHIIIIJJJJJJJKKKKLLMMNOPPRSTVXZ  
FFFFFFFFFFFFFFFFGGGGGGHHHHHHHHHHIIIIJJJJJJJKKKKLLMMNOPR UY  
FFFFFFFFFFFFFFFFGGGGGGHHHHHHHHHHIIIIJJJJJJJKKKKLLMNOPR  
FFFFFFFFFFFFFFFFGGGGGGHHHHHHHHHHIIIIJJJJJJJKKLLMXVQRV  
FFFFFFFFFFFFFFFFGGGGGGHHHHHHHHHHIIIIJJJKMOPU W  
FFFFFFFFFFFFFFFFGGGGGGHHHHHHHHHHIIIIJJKNZ  
FFFFFFFFFFFFFFFFGGGGGGHHHHHHHHIIIIJJKLM  
EFFFFFFFFFFFFFFFFGGGGGGHHHHHHIIIIJJKLNU XVX  
EFFFFFFFFFFFFFFFFGGGGGGHHHHHHIIIIJJKKLMQPPRSU  
EFFFFFFFFFFFFFFFFGGGGGGHHHHIIIIJJKKKLLMMNOQU Y  
EFFFFFFFFFFFFFFFFGGGGGGHHHJNMPX00Q0000PZ

Z  
ZVVX  
TSS YZ  
RQQRT  
RPP0OP X  
UTQONNNNP W TSSTVZ

[illegible]

[illegible]

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NMLLLKJJJIIHHHHGGGG  
TPONNP UJIIHHHHHHGG  
XTRQT XYUNKJIIHHHHHH  
Z KJIIHHHHHH  
XNKJJJIIHHHH  
X QLKKJJJIIIII  
SQONLLKKKJJJIII  
Y SNMMLLLLKKJJJ  
ONNNNOYYOQLKK  
WSQQQQQRTX WNM  
VTTW PO  
ZZ VUV

U  
U  
X S  
TRQPOONML  
ZPNMMLKJ  
SQOOLKKJ  
Z MKJJ  
MLKJ  
SNMLKK  
SPONMLK  
WTSR ZPM  
P  
XS

XRR  
SQQ OML  
ZUWMLKKJ  
OMLKKJ  
SPNMMLLKJ  
TONMNS  
R U  
Y NK  
Y S J  
YPNNMPNKH  
UPNMLKJIIHH  
QOOUJIIHHG  
W VJIIHHGG  
Y SJIIHHGGG  
RONMLKIIHHGGGG  
TR KJIIHHGGGGG  
QKJIIHHGGGGGF  
ROMLJIIHHGGGGGGF  
MJJIIHHGGGGGGGF  
UOLKJIIHHHHGGGGGGGF  
T MKJJIIHHHHGGGGGGGF  
OLKJJJIIHHHHGGGGGGGF  
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XPONMLKKKJJJIIHHHHGGGGGGGFFF  
ZVTRPONMLLKJJJIIHHHHGGGGGGGFFF  
XPONMLKKKJJJIIHHHHGGGGGGGFFF  
YQNLKKJJJIIHHHHGGGGGGGFFF  
OLKJJJIIHHHHGGGGGGGFFF  
T MKJJIIHHHHGGGGGGGFFF  
UOLKJIIHHHHGGGGGGGFFF  
MJJIIHHGGGGGGGF  
ROMLJIIHHGGGGGGF

QKJIIHHGGGGGF  
TR KJIIHHGGGGG  
RONMLKIIHHGGGG  
Y SJIHHGGG  
W VJIHHGG  
Q00UJIIHHG  
UPNMLKJIIHH  
YPNNMPNKH  
Y S J  
Y NK  
R U  
TONMNS  
SPNMLLKJ  
OMLKKJ  
ZUWMLKKJ  
SQQ OML  
XRR

XS  
P  
WTSR ZPM  
SPONMLK  
SNMLKK  
MLKJ  
Z MKJJ  
SQ00LKKJ  
ZPNMMLKJ  
TRQPOONML  
X S  
U  
U

ZZ VUV  
VTTW PO  
WSQQQQQRTX WNM  
ONNNNOYYOQLKK  
Y SNMMLLLLLKKJJJ  
SQONLLKKKJJJIIII  
X QLKKJJJIIIIII  
XNKJJJIIIIHHH  
Z KJIIHHHHHHH  
XTRQT XYUNKJIIHHHHHHH  
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NMLLLKJJIIHHHHHGGGG  
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YWUSRQONMMLKKKJJIIHHHGGGGGGG  
VR PNLKKJJJIIHHGGGGGGGG  
QMLLKJIIHHGGGGGGGG  
WSQPRUNLKIIHHHGGGGGGF  
U MKJIIHHGGGGGGF  
XY VR NKIIHHHGGGGF  
SSZS OQVJIIHHHGGGGF  
TPONMLKKJIIHHHGGG  
WTQOMMKJJIIHHHGG  
V VMLKKJJJIIHHG  
XNLLLLMNPOMIG  
TRPONMN QNYOLH  
YZSPPPY KJJIIH  
UVY YYVZ XTT PNLKJIIH  
ZYSTRQQT RQRSSUY TQOMLKJIIH  
YXSPONN POONNN00Q SRW T 00 KK  
U RNMLLLLLLLMMNPRTWPNNMOPPNNPQ

YWW  
TTT  
RQQS  
W U QPOOPQW  
RPONNNNOPRU  
PMMMMMT V  
MLLLLLLLMMOPQRX  
NLLKKKKKKKKLMMNOQT  
XPONMMMLKKKJJJJJJKKKLM R UY

[illegible]



[illegible]

[illegible]

[illegible]

[illegible]

LINE #	RANGE	RUN CNT	CONSTRUCT	PAGE	1
10	- 41	1	PROCEDURE: MANDELBROT		
15	- 41	5	FOR STMT		
17	- 37	1205	FOR STMT		
21	- 35	159060	FOR STMT		
26	- 33	1748261	FOR STMT		
30	- 30	115291	THEN CLAUSE		
34	- 34	159060	LABELLED STMT		
39	- 40	4	THEN CLAUSE		
44	- 47	1	PROCEDURE: \$MAINBLK		

MM MM AAAAAAAAAA NN NN DDDDDDDDD ## ## P P P P P P P P P P AAAAAAAAAA SSSSSSSSSS  
MMM MMM AAAAAAAAAA NNN NN DDDDDDDDD ## ## P P P P P P P P P P AAAAAAAAAA SSSSSSSSSS  
MMMM MMMM AA AA NNNN NN DD DD ##### PP PP AA AA SS SS  
MM MM MM MM AA AA NN NN NN DD DD ##### PP PP AA AA SS  
MM MMMM MM AA AA NN NN NN DD DD ## ## PP PP AA AA SSS  
MM MM MM AAAAAAAAAA NN NN NN DD DD ## ## P P P P P P P P P P AAAAAAAAAA SSSSSSSS  
MM MM MM AAAAAAAAAA NN NN NN DD DD ## ## P P P P P P P P P P AAAAAAAAAA SSSSSSSS  
MM MM MM AA AA NN NN NN DD DD ## ## PP AA AA SSS  
MM MM MM AA AA NN NN NN DD DD ## ## PP AA AA SSS  
MM MM MM AA AA NN NN NNNN DD DD ##### PP AA AA SSS  
MM MM MM AA AA NN NN NNN DD DD ##### PP AA AA SSS  
MM MM MM AA AA NN NN NN DDDDDDDDD ## ## PP AA AA SSS  
MM MM MM AA AA NN NN N DDDDDDDDD ## ## PP AA AA SSSSSSSSSS  
MM MM MM AA AA NN NN N DDDDDDDDD ## ## PP AA AA SSSSSSSS

JJJJJJJJJ 444 00000000 444 AAAAAAAAAA  
JJJJJJJJJJ 4444 0000000000 4444 AAAAAAAAAA  
JJ 44 44 00 0000 44 44 AA AA  
JJ 44 44 00 00 00 44 44 AA AA  
JJ 44 44 00 00 00 44 44 AA AA  
JJ 444444444444 00 00 00 444444444444 AAAAAAAAAA  
JJ 444444444444 00 00 00 444444444444 AAAAAAAAAA  
JJ 44 00 00 00 44 AA AA  
JJ JJ 44 0000 00 44 AA AA  
JJ JJ 44 000 00 44 AA AA  
JJJJJJJJ 44 0000000000 44 AA AA  
JJJJJJ 44 00000000 44 AA AA

****A	END	JOB	404	MAND#PAS	ROOM	1.06.41	PM	08	JUN	20	PRINTER1	SYS TK4-	JOB	404	END	A****
****A	END	JOB	404	MAND#PAS	ROOM	1.06.41	PM	08	JUN	20	PRINTER1	SYS TK4-	JOB	404	END	A****
****A	END	JOB	404	MAND#PAS	ROOM	1.06.41	PM	08	JUN	20	PRINTER1	SYS TK4-	JOB	404	END	A****
****A	END	JOB	404	MAND#PAS	ROOM	1.06.41	PM	08	JUN	20	PRINTER1	SYS TK4-	JOB	404	END	A****