```
HH        HH  EEEEEEEEEEEE  RRRRRRRRRRR    CCCCCCCCCC     00000000         11        SSSSSSSSS
HH        HH  EEEEEEEEEEEE  RRRRRRRRRRRR  CCCCCCCCCCCC   0000000000       111       SSSSSSSSSSS
HH        HH  EE            RR        RR  CC        CC  00        00     1111       SS        SS
HH        HH  EE            RR        RR  CC            00        00       11       SS
HH        HH  EE            RR        RR  CC            00        00       11       SSS
HHHHHHHHHHHH  EEEEEEE       RRRRRRRRRRRR  CC            00        00       11        SSSSSSSSS
HHHHHHHHHHHH  EEEEEEE       RRRRRRRRRRR   CC            00        00       11         SSSSSSSSS
HH        HH  EE            RR    RR      CC            00        00       11                SSS
HH        HH  EE            RR     RR     CC            00        00       11                 SS
HH        HH  EE            RR      RR    CC        CC  00        00       11       SS        SS
HH        HH  EEEEEEEEEEEE  RR       RR   CCCCCCCCCCCC   0000000000    1111111111   SSSSSSSSSSS
HH        HH  EEEEEEEEEEEE  RR        RR   CCCCCCCCCC     00000000     1111111111    SSSSSSSSS


          JJ  000000000000  BBBBBBBBBB                                    44     3333333333    9999999999
          JJ  000000000000  BBBBBBBBBBB                                  444    333333333333  999999999999
          JJ  00        00  BB        BB                                4444    33        33  99        99
          JJ  00        00  BB        BB                               44 44              33  99        99
          JJ  00        00  BB        BB                              44  44              33  99        99
          JJ  00        00  BBBBBBBBBB                                44   44          3333   999999999999
          JJ  00        00  BBBBBBBBBB                               44    44          3333    9999999999
          JJ  00        00  BB        BB                           44444444444          33            99
JJ        JJ  00        00  BB        BB                          444444444444          33            99
JJ        JJ  00        00  BB        BB                                44    33        33  99        99
JJJJJJJJJJJ   000000000000  BBBBBBBBBBB                                 44    333333333333  999999999999
 JJJJJJJJJ    000000000000  BBBBBBBBBB                                  44     3333333333    9999999999


PPPPPPPPPP    RRRRRRRRRR      00000000      00000000    EEEEEEEEEEEE
PPPPPPPPPPP   RRRRRRRRRRR    0000000000    0000000000   EEEEEEEEEEEE
PP        PP  RR        RR  00        00  00        00  EE
PP        PP  RR        RR  00        00  00        00  EE
PP        PP  RR        RR  00        00  00        00  EE
PPPPPPPPPPP   RRRRRRRRRRR   00        00  00        00  EEEEEEE
PPPPPPPPPP    RRRRRRRRRR    00        00  00        00  EEEEEEE
PP            RR    RR      00        00  00        00  EE
PP            RR     RR     00        00  00        00  EE
PP            RR      RR    00        00  00        00  EE
PP            RR       RR    0000000000    0000000000   EEEEEEEEEEEE
PP            RR        RR    00000000      00000000    EEEEEEEEEEEE


PPPPPPPPPP    RRRRRRRRRR    TTTTTTTTTTT       11              44      00000000     3333333333
PPPPPPPPPPP   RRRRRRRRRRR   TTTTTTTTTTT      111             444     0000000000   333333333333
PP        PP  RR        RR        TT        1111            4444    00        00  33        33
PP        PP  RR        RR        TT          11           44 44    00        00            33
PP        PP  RR        RR        TT          11          44  44    00        00            33
PPPPPPPPPPP   RRRRRRRRRRR       TT            11         44   44    00        00          3333
PPPPPPPPPP    RRRRRRRRRR        TT            11        44    44    00        00          3333
PP            RR    RR          TT            11       44444444444  00        00            33
PP            RR     RR         TT            11      444444444444  00        00            33
PP            RR      RR        TT            11              44    00        00  33        33
PP            RR       RR       TT        1111111111            44     0000000000   333333333333
PP            RR        RR      TT        1111111111            44      00000000     3333333333
```

```
          JJ  EEEEEEEEEEEE   SSSSSSSSSS   MM        MM   SSSSSSSSSS    GGGGGGGGGG
          JJ  EEEEEEEEEEEE  SSSSSSSSSSSS  MMM      MMM  SSSSSSSSSSSS  GGGGGGGGGGGG
          JJ  EE            SS        SS  MMMM    MMMM  SS        SS  GG        GG
          JJ  EE            SS            MM MM  MM MM  SS            GG
          JJ  EE            SSS           MM  MMMM  MM  SSS           GG
          JJ  EEEEEEE        SSSSSSSSS    MM   MM   MM   SSSSSSSSS    GG
          JJ  EEEEEEE         SSSSSSSSS   MM        MM    SSSSSSSSS   GG     GGGGG
          JJ  EE                     SSS  MM        MM           SSS  GG     GGGGG
JJ        JJ  EE                      SS  MM        MM            SS  GG        GG
JJ        JJ  EE            SS        SS  MM        MM  SS        SS  GG        GG
JJJJJJJJJJJJ  EEEEEEEEEEEE  SSSSSSSSSSSS  MM        MM  SSSSSSSSSSSS  GGGGGGGGGGGG
 JJJJJJJJJJ   EEEEEEEEEEEE   SSSSSSSSSS   MM        MM   SSSSSSSSSS    GGGGGGGGGG


              AAAAAAAAAA                                                  00000000
             AAAAAAAAAAAA                                                0000000000
             AA        AA                                               00        00
             AA        AA                                               00        00
             AA        AA                                               00        00
             AAAAAAAAAAAA                                               00        00
             AAAAAAAAAAAA                                               00        00
             AA        AA                                               00        00
             AA        AA                                               00        00
             AA        AA                                               00        00
             AA        AA                                                0000000000
             AA        AA                                                 00000000
```

```
IAT6140 JOB ORIGIN FROM GROUP=ANYLOCAL, DSP=IR , DEVICE=INTRDR  , 000
00:20:19 IAT4401  LOCATE FOR STEP=SIM      DD=STEPLIB  DSN=SYS2.SIMULA.LINKLIB
00:20:19 IAT4402 UNIT=3380    ,VOL(S)  N/A: UNIT NOT JES3
00:20:19 IAT4401  LOCATE FOR STEP=GO       DD=SYSLIB   DSN=SYS2.SIMULA.LINKLIB
00:20:19 IAT4402 UNIT=3380    ,VOL(S)  N/A: UNIT NOT JES3
00:20:19 IAT4401  LOCATE FOR STEP=GO       DD=SYSLIB   DSN=SYS2.SIMULA.LINKLIB
00:20:19 IAT4402 UNIT=3380    ,VOL(S)  N/A: UNIT NOT JES3
00:20:19 IAT2000 JOB 0439 HERC01S  SELECTED TK4A     GRP=JS3BATCH
00:20:19  IEF403I HERC01S - STARTED - TIME=00.20.19
00:20:19  IEFACTRT - Stepname  Procstep  Program   Retcode
00:20:19  HERC01S    PRIMES    SIM       SIMULA    RC= 0000
00:20:19  HERC01S    PRIMES    GO        LOADER    RC= 0000
00:20:19  IEF404I HERC01S - ENDED - TIME=00.20.19
```

```
          JJ  EEEEEEEEEEEE   SSSSSSSSSS            JJ   CCCCCCCCCC   LL
          JJ  EEEEEEEEEEEE  SSSSSSSSSSSS           JJ  CCCCCCCCCCCC  LL
          JJ  EE            SS        SS           JJ  CC        CC  LL
          JJ  EE            SS                     JJ  CC            LL
          JJ  EE            SSS                    JJ  CC            LL
          JJ  EEEEEEE        SSSSSSSSS             JJ  CC            LL
          JJ  EEEEEEE         SSSSSSSSS            JJ  CC            LL
          JJ  EE                     SSS           JJ  CC            LL
JJ        JJ  EE                      SS  JJ       JJ  CC            LL
JJ        JJ  EE            SS        SS  JJ       JJ  CC        CC  LL
JJJJJJJJJJJJ  EEEEEEEEEEEE  SSSSSSSSSSSS  JJJJJJJJJJJJ  CCCCCCCCCCCC  LLLLLLLLLLLL
 JJJJJJJJJJ   EEEEEEEEEEEE   SSSSSSSSSS    JJJJJJJJJJ    CCCCCCCCCC   LLLLLLLLLLLL


              AAAAAAAAAA                                                  00000000
             AAAAAAAAAAAA                                                0000000000
             AA        AA                                               00        00
             AA        AA                                               00        00
             AA        AA                                               00        00
             AAAAAAAAAAAA                                               00        00
             AAAAAAAAAAAA                                               00        00
             AA        AA                                               00        00
             AA        AA                                               00        00
             AA        AA                                               00        00
             AA        AA                                                0000000000
             AA        AA                                                 00000000
```

```
//HERC01S  JOB (SIMULA),                                                *
//             'SIMULA ',                                               *
//             CLASS=A,                                                 *
//             MSGCLASS=A,                                              *
//             REGION=9000K,TIME=1440,                                  *
//             MSGLEVEL=(1,1),                                          *
//           USER=HERC01,PASSWORD=              GENERATED BY GDL
//*************************************************************
//*
//* Name: SYS2.JCLLIB(PRIMSIMU)
//*
//* Desc: Sieve of Eratosthenes programmed in SIMULA.
//*       All prime numbers up to the value entered via
//*       //GO.SYSIN DD are computed.
//*
//*************************************************************
//PRIMES  EXEC SIMCG
//SIM.SYSIN DD *
/*
//GO.SYSIN   DD *
/*
//GO.SYSOUT  DD SYSOUT=*
//GO.PRIMOUT DD SYSOUT=*,DCB=(RECFM=FBA,LRECL=161,BLKSIZE=16100)
    1     //HERC01S  JOB (SIMULA),                                                *
          //             'SIMULA ',                                               *
          //             CLASS=A,                                                 *
          //             MSGCLASS=A,                                              *
          //             REGION=9000K,TIME=1440,                                  *
          //             MSGLEVEL=(1,1),                                          *
          //           USER=HERC01,PASSWORD=              GENERATED BY GDL
          //*************************************************************
          //*
          //* Name: SYS2.JCLLIB(PRIMSIMU)
          //*
          //* Desc: Sieve of Eratosthenes programmed in SIMULA.
          //*       All prime numbers up to the value entered via
          //*       //GO.SYSIN DD are computed.
          //*
          //*************************************************************
    2     //PRIMES  EXEC SIMCG
    3     XXSIMCG    PROC EXLIB='SYS2.SIMULA.LINKLIB',GOPARM=,SOUT='*'
          //*************************************************************
          //*
          //* Name: SYS2.PROCLIB(SIMCG)
          //*
          //* Desc: SIMULA compile and go
          //*
          //*************************************************************
    4     XXSIM      EXEC PGM=SIMULA
    5     XXSTEPLIB  DD DSN=SYS2.SIMULA.LINKLIB,DISP=SHR
    6     XXSYSPRINT DD SYSOUT=&SOUT
    7     XXSYSUT1   DD UNIT=SYSDA,SPACE=(2000,(20,20))
    8     XXSYSUT2   DD UNIT=(SYSDA,SEP=SYSUT1),SPACE=(2000,(20,20))
    9     XXSYSUT3   DD UNIT=(SYSDA,SEP=(SYSUT1,SYSUT2)),SPACE=(2000,(20,10))
   10     XXSYSUT4   DD UNIT=(SYSDA,SEP=(SYSUT1,SYSUT2)),SPACE=(1032,256),
          XX         DCB=DSORG=DA
   11     XXSYSGO    DD DSN=&&LOADSET,DISP=(MOD,PASS),UNIT=(SYSDA,SEP=SYSUT1),
          XX         SPACE=(1600,(30,30)),DCB=BLKSIZE=1600
   12     //SIM.SYSIN DD *,DCB=BLKSIZE=80
   13     XXGO       EXEC PGM=LOADER,PARM='MAP,PRINT,LET,EP=ZYQENT/&GOPARM',
          XX         COND=(4,LT,SIM)
   14     XXSYSLIN   DD DSN=&&LOADSET,DISP=(OLD,PASS)
   15     XXSYSLIB   DD DSN=&EXLIB,DISP=SHR
```

```
16     XX         DD DSN=SYS2.SIMULA.LINKLIB,DISP=SHR
17     XXSYSLOUT  DD SYSOUT=&SOUT
18     XXSYSOUT   DD SYSOUT=&SOUT
19     //GO.SYSIN   DD *,DCB=BLKSIZE=80
20     //GO.SYSOUT  DD SYSOUT=*
21     //GO.PRIMOUT DD SYSOUT=*,DCB=(RECFM=FBA,LRECL=161,BLKSIZE=16100)
```

```
 SSSSSSSSS    YY         YY    SSSSSSSSS    MM         MM    SSSSSSSSS     GGGGGGGGG
SSSSSSSSSSS    YY       YY    SSSSSSSSSSS   MMM       MMM   SSSSSSSSSSS   GGGGGGGGGGG
SS         SS    YY     YY     SS          SS  MMMM     MMMM  SS          SS  GG         GG
SS                 YY   YY      SS              MM MM   MM MM  SS              GG
SSS                 YYYY        SSS            MM  MMMM  MM   SSS            GG
 SSSSSSSSS           YY          SSSSSSSSS     MM   MM   MM    SSSSSSSSS     GG
  SSSSSSSSS          YY           SSSSSSSSS    MM         MM     SSSSSSSSS   GG     GGGGG
          SSS        YY                  SSS   MM         MM             SSS  GG     GGGGG
           SS        YY                   SS   MM         MM              SS  GG         GG
SS         SS        YY         SS        SS   MM         MM   SS         SS  GG         GG
SSSSSSSSSSS          YY         SSSSSSSSSSS    MM         MM   SSSSSSSSSSS   GGGGGGGGGGG
 SSSSSSSSS           YY          SSSSSSSSS     MM         MM    SSSSSSSSS     GGGGGGGGG
```

```
                AAAAAAAAAA                                                    00000000
               AAAAAAAAAAAA                                                  0000000000
               AA          AA                                               00        00
               AA          AA                                               00        00
               AA          AA                                               00        00
               AAAAAAAAAAAA                                                 00        00
               AAAAAAAAAAAA                                                 00        00
               AA          AA                                               00        00
               AA          AA                                               00        00
               AA          AA                                               00        00
               AA          AA                                                0000000000
               AA          AA                                                 00000000
```

```
 STMT NO. MESSAGE
-
    6     IEF653I SUBSTITUTION JCL - SYSOUT=*
   13     IEF653I SUBSTITUTION JCL - PGM=LOADER,PARM='MAP,PRINT,LET,EP=ZYQENT/',
   15     IEF653I SUBSTITUTION JCL - DSN=SYS2.SIMULA.LINKLIB,DISP=SHR
   17     IEF653I SUBSTITUTION JCL - SYSOUT=*
   18     IEF653I SUBSTITUTION JCL - SYSOUT=*
IEF236I ALLOC. FOR HERC01S SIM PRIMES
IEF237I 280  ALLOCATED TO STEPLIB
IEF237I JES3 ALLOCATED TO SYSPRINT
IEF237I 140  ALLOCATED TO SYSUT1
IEF237I 190  ALLOCATED TO SYSUT2
IEF237I 170  ALLOCATED TO SYSUT3
IEF237I 180  ALLOCATED TO SYSUT4
IEF237I 190  ALLOCATED TO SYSGO
IEF237I JES3 ALLOCATED TO SYSIN
IEF142I HERC01S SIM PRIMES - STEP WAS EXECUTED - COND CODE 0000
IEF285I   SYS2.SIMULA.LINKLIB                          KEPT          *--------0
IEF285I   VOL SER NOS= PUB002.
IEF285I   SIM.PRIMES.SYSPRINT                          SYSOUT
IEF285I   SYS16261.T002019.RA000.HERC01S.R0000002      DELETED       *--------0
IEF285I   VOL SER NOS= WORK00.
IEF285I   SYS16261.T002019.RA000.HERC01S.R0000003      DELETED       *--------0
IEF285I   VOL SER NOS= WORK03.
IEF285I   SYS16261.T002019.RA000.HERC01S.R0000004      DELETED       *--------1
IEF285I   VOL SER NOS= WORK01.
IEF285I   SYS16261.T002019.RA000.HERC01S.R0000005      DELETED       *--------0
IEF285I   VOL SER NOS= WORK02.
IEF285I   SYS16261.T002019.RA000.HERC01S.LOADSET       PASSED        *--------3
IEF285I   VOL SER NOS= WORK03.
IEF285I   JESI0001                                     SYSIN
IEF373I STEP /SIM     / START 16261.0020
IEF374I STEP /SIM     / STOP  16261.0020 CPU    0MIN 00.02SEC SRB    0MIN 00.01SEC VIRT   608K SYS   168K
*********************************************************************************************************************
*     1. Jobstep of job: HERC01S     Stepname: SIM         Program name: SIMULA     Executed on 17.09.16 from 00.20.19 to 00.20.19 *
*         elapsed time  00:00:00,07                    CPU-Identifier:  TK4-           Page-in:      0                          *
*             CPU time  00:00:00,03              Virtual Storage used:    608K         Page-out:      0                          *
*           corr. CPU:  00:00:00,03   CPU time has been corrected by  1 / 1,0  multiplier                                      *
*                                                                                                                               *
*     I/O Operation                                                                                                             *
*     Number of records read via DD * or DD DATA:     98                                                                        *
*     280.......0 DMY.......0 140.......0 190.......0 170.......1 180.......0 190.......3 DMY.......0                           *
*                                                                                                                               *
*                                      Charge for step (w/o SYSOUT):          0,05                                          *
*********************************************************************************************************************
IEF236I ALLOC. FOR HERC01S GO PRIMES
IEF237I 190  ALLOCATED TO SYSLIN
IEF237I 280  ALLOCATED TO SYSLIB
IEF237I 280  ALLOCATED TO
IEF237I JES3 ALLOCATED TO SYSLOUT
IEF237I JES3 ALLOCATED TO SYSOUT
IEF237I JES3 ALLOCATED TO SYSIN
IEF237I JES3 ALLOCATED TO SYSOUT
IEF237I JES3 ALLOCATED TO PRIMOUT
IEF142I HERC01S GO PRIMES - STEP WAS EXECUTED - COND CODE 0000
IEF285I   SYS16261.T002019.RA000.HERC01S.LOADSET       PASSED        *--------4
IEF285I   VOL SER NOS= WORK03.
IEF285I   SYS2.SIMULA.LINKLIB                          KEPT          *------319
IEF285I   VOL SER NOS= PUB002.
IEF285I   SYS2.SIMULA.LINKLIB                          KEPT          *--------0
IEF285I   VOL SER NOS= PUB002.
IEF285I   GO.PRIMES.SYSLOUT                            SYSOUT
IEF285I   GO.PRIMES.SYSOUT                             SYSOUT
```

```
IEF285I   JESI0002                                SYSIN
IEF285I   SYS16261.T002019.RA000.HERC01S.R0000008 SYSOUT
IEF285I   GO.PRIMES.PRIMOUT                       SYSOUT
IEF373I STEP /GO      / START 16261.0020
IEF374I STEP /GO      / STOP  16261.0020 CPU    0MIN 00.08SEC SRB    0MIN 00.01SEC VIRT  9000K SYS   208K
********************************************************************************************************************
*     2. Jobstep of job: HERC01S     Stepname: GO          Program name: LOADER     Executed on 17.09.16 from 00.20.19 to 00.20.19 *
*         elapsed time  00:00:00,12                  CPU-Identifier:  TK4-           Page-in:      0                          *
*             CPU time  00:00:00,09            Virtual Storage used:   9000K         Page-out:     0                          *
*           corr. CPU:  00:00:00,09   CPU time has been corrected by  1 / 1,0  multiplier                                    *
*                                                                                                                            *
*     I/O Operation                                                                                                          *
*     Number of records read via DD * or DD DATA:      1                                                                     *
*     190.......4 280.....319 280.......0 DMY.......0 DMY.......0 DMY.......0 DMY.......0 DMY.......0                       *
*                                                                                                                            *
*                                        Charge for step (w/o SYSOUT):          0,15                                     *
********************************************************************************************************************
IEF237I 190  ALLOCATED TO SYS00001
IEF285I   SYS16261.T002019.RA000.HERC01S.R0000001      KEPT          *--------0
IEF285I   VOL SER NOS= WORK03.
IEF285I   SYS16261.T002019.RA000.HERC01S.LOADSET       DELETED
IEF285I   VOL SER NOS= WORK03.
IEF375I  JOB /HERC01S / START 16261.0020
IEF376I  JOB /HERC01S / STOP  16261.0020 CPU    0MIN 00.10SEC SRB    0MIN 00.02SEC
```

```
 SSSSSSSSSS    IIIIIIIIII   MM         MM
SSSSSSSSSSSS   IIIIIIIIII   MMM       MMM
SS        SS       II       MMMM     MMMM
SS                 II       MM MM   MM MM
SSS                II       MM  MMMM  MM
 SSSSSSSSS         II       MM   MM   MM
  SSSSSSSSS        II       MM        MM
         SSS       II       MM        MM
          SS       II       MM        MM
SS        SS       II       MM        MM
SSSSSSSSSSSS   IIIIIIIIII   MM        MM
 SSSSSSSSSS    IIIIIIIIII   MM        MM
```

```
PPPPPPPPPPP   RRRRRRRRRRR    IIIIIIIIII   MM        MM  EEEEEEEEEEEE   SSSSSSSSSS
PPPPPPPPPPPP  RRRRRRRRRRRR   IIIIIIIIII   MMM      MMM  EEEEEEEEEEEE  SSSSSSSSSSSS
PP        PP  RR        RR       II       MMMM    MMMM  EE            SS        SS
PP        PP  RR        RR       II       MM MM  MM MM  EE            SS
PP        PP  RR        RR       II       MM  MMMM  MM  EE            SSS
PPPPPPPPPPP   RRRRRRRRRRR      II       MM   MM   MM  EEEEEEE        SSSSSSSSS
PPPPPPPPPP    RRRRRRRRRR       II       MM        MM  EEEEEEE         SSSSSSSSS
PP            RR    RR         II       MM        MM  EE                  SSS
PP            RR     RR        II       MM        MM  EE                   SS
PP            RR      RR       II       MM        MM  EE            SS        SS
PP            RR       RR   IIIIIIIIII   MM        MM  EEEEEEEEEEEE  SSSSSSSSSSS
PP            RR        RR  IIIIIIIIII   MM        MM  EEEEEEEEEEEE   SSSSSSSSS
```

```
 SSSSSSSSS    YY        YY   SSSSSSSSS   PPPPPPPPPP   RRRRRRRRRR    IIIIIIIIII   NN        NN  TTTTTTTTTTT
SSSSSSSSSSS    YY      YY   SSSSSSSSSSS  PPPPPPPPPPP  RRRRRRRRRRR   IIIIIIIIII   NNN       NN  TTTTTTTTTTT
SS        SS    YY    YY    SS         SS PP        PP RR        RR       II       NNNN      NN      TT
SS               YY  YY     SS            PP        PP RR        RR       II       NN NN     NN      TT
SSS               YYYY      SSS           PP        PP RR        RR       II       NN  NN    NN      TT
 SSSSSSSSS         YY        SSSSSSSSS    PPPPPPPPPPP  RRRRRRRRRRR       II       NN   NN   NN      TT
  SSSSSSSSS        YY         SSSSSSSSS   PPPPPPPPPP   RRRRRRRRRR        II       NN    NN  NN      TT
         SSS       YY                SSS  PP          RR    RR          II       NN     NN NN      TT
          SS       YY                 SS  PP          RR     RR         II       NN      NNN       TT
SS        SS       YY        SS       SS  PP          RR      RR        II       NN       NN       TT
SSSSSSSSSSS        YY        SSSSSSSSSSS  PP          RR       RR   IIIIIIIIII  NN        NN       TT
 SSSSSSSSS         YY         SSSSSSSSS   PP          RR        RR  IIIIIIIIII  NN         N       TT
```

```
              AAAAAAAAAA                                                    00000000
             AAAAAAAAAAAA                                                  0000000000
             AA        AA                                                 00        00
             AA        AA                                                 00        00
             AA        AA                                                 00        00
             AAAAAAAAAAAA                                                 00        00
             AAAAAAAAAAAA                                                 00        00
             AA        AA                                                 00        00
             AA        AA                                                 00        00
             AA        AA                                                 00        00
             AA        AA                                                  0000000000
             AA        AA                                                   00000000
```

COMPILER OPTIONS

```
NOLIST
NODECK
  LOAD
  WARN
  SUBCHK
NOXREF
  SOURCE
NOTERM
NOSYMBDUMP

  LINECNT =       60
  MAXERROR=       50
  INDENT  =        0
  RESWD   =        0
  EXTERN  =        0
```

```
00001   comment
00002   ***
00003   *** Eratosthenes' Sieve, direct iteration
00004   ***;
00005   begin                                                   B1
00006   comment
00007   ***
00008   *** declarations
00009   ***;
00010       ref(outfile) primout;
00011       boolean array isprime(1:8400000);
00012       integer i,j,k,l,limit;
00013   comment
00014   ***
00015   *** initialization
00016   ***;
00017       limit := inint;
00018       for i := 3 step 2 until limit do
00019           isprime(i) := true;
00020       i := 3;
00021       k := 9;
00022   comment
00023   ***
00024   *** sieve
00025   ***;
00026       for i := i while k < limit do
00027       begin                                               B2
00028           for i := i while k < limit and not isprime(i) do
00029           begin                                           B3
00030               i := i+2;
00031               k := i*i;
00032           end;                                            E3
00033           if k < limit then
00034           begin                                           B4
00035               for k := k while k < limit do
00036               begin                                       B5
00037                   isprime(k) := false;
00038                   k := k+i+i;
00039               end;                                        E5
00040               i := i+2;
00041               k := i*i;
00042           end;                                            E4
00043       end;                                                E2
00044   comment
00045   ***
00046   *** print initialization
00047   ***;
00048       j := 1;
00049       k := 1;
00050       l := 0;
00051       primout :- new outfile("PRIMOUT");
00052       primout.open(blanks(161));
00053       primout.outtext("1");
00054       primout.outint(2, 8);
00055   comment
00056   ***
00057   *** print 20 primes per output line
00058   ***;
```

```
00059       for i := 3 step 2 until limit-1 do
00060       begin                                                   B6
00061           if isprime(i) then
00062           begin                                               B7
00063               j := j + 1;
00064               k := k + 1;
00065               primout.outint(i, 8);
00066               if j = 20 then
00067               begin                                           B8
00068                   primout.outimage;
00069                   j := 0;
00070                   l := l + 1;
00071                   if l = 62 then
00072                   begin                                       B9
00073                       primout.outtext("1");
00074                       l := 0;
00075                   end                                         E9
00076                   else primout.outtext(" ");
00077               end;                                            E8
00078           end;                                                E7
00079       end;                                                    E6
00080   comment
00081   ***
00082   *** print incomplete last line
00083   ***;
00084       if j ^= 0 then primout.outimage;
00085       primout.outimage;
00086   comment
00087   ***
00088   *** print summary and close output file
00089   ***;
00090       primout.outint(k, 8); primout.outtext(" primes up to ");
00091       primout.outint(limit, 8); primout.outtext(" found");
00092       primout.outimage;
00093       primout.close; primout :- none;
00094   comment
00095   ***
00096   *** done
00097   ***;
00098   end;                                                        E1
```

NO DIAGNOSTICS FOR THIS COMPILATION.

```
 GGGGGGGGGG   OOOOOOOOOOOO
GGGGGGGGGGGG  OOOOOOOOOOOO
GG        GG  OO        OO
GG            OO        OO
GG            OO        OO
GG            OO        OO
GG     GGGGG  OO        OO
GG     GGGGG  OO        OO
GG        GG  OO        OO
GG        GG  OO        OO
GGGGGGGGGGGG  OOOOOOOOOOOO
 GGGGGGGGGG   OOOOOOOOOOOO


PPPPPPPPPPP   RRRRRRRRRRR    IIIIIIIIII   MM        MM  EEEEEEEEEEEE   SSSSSSSSSS
PPPPPPPPPPPP  RRRRRRRRRRRR   IIIIIIIIII   MMM      MMM  EEEEEEEEEEEE  SSSSSSSSSSSS
PP        PP  RR        RR       II       MMMM    MMMM  EE            SS        SS
PP        PP  RR        RR       II       MM MM  MM MM  EE            SS
PP        PP  RR        RR       II       MM  MMMM  MM  EE            SSS
PPPPPPPPPPPP  RRRRRRRRRRRR       II       MM   MM   MM  EEEEEEE        SSSSSSSSS
PPPPPPPPPPP   RRRRRRRRRRR        II       MM        MM  EEEEEEE         SSSSSSSSS
PP            RR    RR           II       MM        MM  EE                     SSS
PP            RR     RR          II       MM        MM  EE                      SS
PP            RR      RR         II       MM        MM  EE            SS        SS
PP            RR       RR    IIIIIIIIII   MM        MM  EEEEEEEEEEEE  SSSSSSSSSSSS
PP            RR        RR   IIIIIIIIII   MM        MM  EEEEEEEEEEEE   SSSSSSSSSS


 SSSSSSSSSS   YY        YY   SSSSSSSSSS   LL            OOOOOOOOOOOO  UU        UU  TTTTTTTTTTTT
SSSSSSSSSSSS   YY      YY   SSSSSSSSSSSS  LL            OOOOOOOOOOOO  UU        UU  TTTTTTTTTTTT
SS        SS    YY    YY    SS        SS  LL            OO        OO  UU        UU       TT
SS              YY  YY     SS            LL            OO        OO  UU        UU       TT
SSS              YYYY      SSS           LL            OO        OO  UU        UU       TT
 SSSSSSSSS         YY        SSSSSSSSS    LL            OO        OO  UU        UU       TT
  SSSSSSSSS        YY         SSSSSSSSS   LL            OO        OO  UU        UU       TT
         SSS       YY                SSS  LL            OO        OO  UU        UU       TT
          SS       YY                 SS  LL            OO        OO  UU        UU       TT
SS        SS       YY       SS        SS  LL            OO        OO  UU        UU       TT
SSSSSSSSSSSS       YY       SSSSSSSSSSSS  LLLLLLLLLLLL  OOOOOOOOOOOO  UUUUUUUUUUUU       TT
 SSSSSSSSSS        YY        SSSSSSSSSS   LLLLLLLLLLLL  OOOOOOOOOOOO   UUUUUUUUUU        TT


              AAAAAAAAAA                                                  00000000
             AAAAAAAAAAAA                                                0000000000
             AA        AA                                               00        00
             AA        AA                                               00        00
             AA        AA                                               00        00
             AAAAAAAAAAAA                                               00        00
             AAAAAAAAAAAA                                               00        00
             AA        AA                                               00        00
             AA        AA                                               00        00
             AA        AA                                               00        00
             AA        AA                                                0000000000
             AA        AA                                                 00000000
```

VS LOADER

OPTIONS USED - PRINT,MAP,LET,CALL,RES,NOTERM,SIZE=307200,NAME=**GO
EP=ZYQENT

NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR	NAME	TYPE	ADDR
ZYQMAIN	SD	AC010	$PRIVATE	PC	AC5C0	ZYQCNT	SD	AC620	ZYQININT*	SD	AC808	ZYQCOPY *	SD	AC850
ZYQENT *	SD	AC918	ZYQBSC *	LR	AC960	ZYQOPEN *	LR	AC9F4	ZYQCLOSE*	LR	ACB0E	ZYQPRINT*	LR	ACCE8
ZYQINFIL*	LR	ACDC4	ZYQIFEX *	LR	ACF50	ZYQRESET*	LR	AD012	ZYQSYN *	LR	AD16C	ZYQPAGE *	LR	AD224
ZYQWRITE*	LR	AD22A	ZYQFILE *	LR	AD33C	ZYQSTCNT*	LR	AD468	ZYQFSA *	LR	AD598	ZYQARRAY*	SD	AE428
ZYQBLANK*	SD	AE698	ZYQOUTTE*	SD	AE7A8	ZYQOUTIN*	SD	AE838	ZYQTERM *	SD	AE860	ZYQOUTIM*	SD	AECC0
ZYQOUTFI*	LR	AEDEC	ZYQLASTI*	SD	AEF68	ZYQLASTR*	LR	AF030	ZYQFIELD*	LR	AF044	ZYQCTAB *	LR	AF0E8
ZYQGETIN*	SD	AF1F0	ZYQTVASS*	SD	AF320	ZYQINIT *	SD	AF3E0	ZYQDATE *	LR	AF3FC	ZYQERR *	SD	AFF70
ZYQERRDP*	LR	AFF86	ZYQECB *	SD	B0B78	ZYQBC *	SD	B0C68	ZYQTRACD*	SD	B0CF8	ZYQTRACE*	SD	B12E8
ZYQATTN *	SD	B2110	ZYQSTORE*	SD	B2238	ZYQRTSCM*	SD	B3120	ZYQENTVI*	SD	B3D60	ZYQPUTIN*	SD	B4328
ZYQCOM *	SD	B4550	ZYQSNAP *	SD	B5398	ZYQACC *	SD	B53C8	ZYQREFER*	SD	B53D0	ZYQDEFLT*	SD	B5878
ZYQTIMEX*	SD	B58D8	ZYQMVCL *	SD	B5948	ZYQUSERX*	SD	B59B0	ZYQCOMUN*	SD	B59B8	ZYQERREX*	SD	B5A50
ZYQLNO *	SD	B5A88	ZYQLNMAP*	LR	B5A98	ZYQFORT *	SD	B5C98	ZYQPUTRE*	SD	B5FA0	ZYQGETRE*	SD	B62D8
ZYQSTCDA*	SD	B6578	ZYQMAPTR*	SD	B66A0	ZYQMAP *	SD	B6830	ZYQDUMP *	SD	B6CB8	ZYQGC6 *	SD	B7038
ZYQLDIG *	SD	B7278	ZYQEVD *	SD	B7380	ZYQTXTCM*	SD	B73E0	ZYQTSPIE*	SD	B7478	ZYQLNODT*	SD	B74A0
ZYQPRD *	SD	B74F0	ZYQSCALE*	SD	B7588									

TOTAL LENGTH B638
ENTRY ADDRESS AC918

```
 GGGGGGGGGG   OOOOOOOOOOO
GGGGGGGGGGGG  OOOOOOOOOOO
GG        GG  OO        OO
GG            OO        OO
GG            OO        OO
GG            OO        OO
GG     GGGGG  OO        OO
GG     GGGGG  OO        OO
GG        GG  OO        OO
GG        GG  OO        OO
GGGGGGGGGGGG  OOOOOOOOOOO
 GGGGGGGGGG   OOOOOOOOOOO
```

```
PPPPPPPPPP   RRRRRRRRRR    IIIIIIIII   MM        MM  EEEEEEEEEEE   SSSSSSSSS
PPPPPPPPPPP  RRRRRRRRRRR   IIIIIIIII   MMM      MMM  EEEEEEEEEEE  SSSSSSSSSSS
PP        PP RR        RR      II      MMMM    MMMM  EE            SS        SS
PP        PP RR        RR      II      MM MM  MM MM  EE            SS
PP        PP RR        RR      II      MM  MMMM  MM  EE            SSS
PPPPPPPPPPP  RRRRRRRRRRR       II      MM   MM   MM  EEEEEEE        SSSSSSSSS
PPPPPPPPPP   RRRRRRRRRR        II      MM        MM  EEEEEEE          SSSSSSSSS
PP           RR    RR          II      MM        MM  EE                   SSS
PP           RR     RR         II      MM        MM  EE                    SS
PP           RR      RR        II      MM        MM  EE            SS      SS
PP           RR       RR   IIIIIIIII   MM        MM  EEEEEEEEEEE  SSSSSSSSSS
PP           RR        RR  IIIIIIIII   MM        MM  EEEEEEEEEEE   SSSSSSSS
```

```
 SSSSSSSSS   YY          YY   SSSSSSSSS   000000000000  UU          UU  TTTTTTTTTTTT
SSSSSSSSSSS   YY        YY   SSSSSSSSSSS  000000000000  UU          UU  TTTTTTTTTTTT
SS          SS   YY    YY    SS          SS  00          00  UU          UU      TT
SS                 YY  YY     SS              00          00  UU          UU      TT
SSS                 YYYY      SSS             00          00  UU          UU      TT
 SSSSSSSSS           YY        SSSSSSSSS      00          00  UU          UU      TT
  SSSSSSSSS          YY         SSSSSSSSS     00          00  UU          UU      TT
          SSS        YY                 SSS   00          00  UU          UU      TT
           SS        YY                  SS   00          00  UU          UU      TT
SS         SS        YY         SS       SS   00          00  UU          UU      TT
SSSSSSSSSSS          YY         SSSSSSSSSSS   000000000000  UUUUUUUUUUUU    TT
 SSSSSSSSS           YY          SSSSSSSSS    000000000000   UUUUUUUUUU     TT
```

```
                AAAAAAAAAA                                                  00000000
               AAAAAAAAAAAA                                                0000000000
               AA          AA                                             00        00
               AA          AA                                             00        00
               AA          AA                                             00        00
               AAAAAAAAAAAA                                               00        00
               AAAAAAAAAAAA                                               00        00
               AA          AA                                             00        00
               AA          AA                                             00        00
               AA          AA                                             00        00
               AA          AA                                              0000000000
               AA          AA                                               00000000
```

```
ZYQ994   SIMULA 67 RUN TIME SYSTEM : VERSION 12.00, DATE OF RELEASE  9 AUG 1985
ZYQ994   SIMULA PROGRAM COMPILED ON 17 SEP 2016 AT  0:20:19.37, START OF EXECUTION ON 17 SEP 2016 AT  0:20:19.37
ZYQ994   PROCESSING OPTIONS : DUMP=1,HIARCHY=0,LINECNT=60,SIZE=8929280,TRACE=0,SYMBDUMP=1
```

```
ZYQ994   END OF SIMULA PROGRAM EXECUTION AT    20:19.44   EXECUTION TIME 0.00 SEC.   RETURN CODE IS #00000000
ZYQ994   00000 STORECOLLAPSES, DATA STORAGE USED : 8400856 BYTES
```

```
 GGGGGGGGGG   OOOOOOOOOOO
GGGGGGGGGGGG  OOOOOOOOOOO
GG        GG  OO        OO
GG            OO        OO
GG            OO        OO
GG            OO        OO
GG     GGGGG  OO        OO
GG     GGGGG  OO        OO
GG        GG  OO        OO
GG        GG  OO        OO
GGGGGGGGGGGG  OOOOOOOOOOO
 GGGGGGGGGG   OOOOOOOOOOO
```

```
PPPPPPPPPP   RRRRRRRRRR    IIIIIIIII   MM        MM  EEEEEEEEEEE   SSSSSSSSS
PPPPPPPPPPP  RRRRRRRRRRR   IIIIIIIII   MMM      MMM  EEEEEEEEEEE  SSSSSSSSSSS
PP        PP RR        RR      II      MMMM    MMMM  EE           SS        SS
PP        PP RR        RR      II      MM MM  MM MM  EE           SS
PP        PP RR        RR      II      MM  MMMM  MM  EE           SSS
PPPPPPPPPPP  RRRRRRRRRRR       II      MM   MM   MM  EEEEEEE       SSSSSSSSS
PPPPPPPPPP   RRRRRRRRRR        II      MM        MM  EEEEEEE         SSSSSSSSS
PP           RR    RR          II      MM        MM  EE                  SSS
PP           RR     RR         II      MM        MM  EE                   SS
PP           RR      RR        II      MM        MM  EE           SS        SS
PP           RR       RR    IIIIIIIII  MM        MM  EEEEEEEEEEE  SSSSSSSSSSS
PP           RR        RR   IIIIIIIII  MM        MM  EEEEEEEEEEE   SSSSSSSSS
```

```
PPPPPPPPPP   RRRRRRRRRR    IIIIIIIII   MM        MM  OOOOOOOOOOO  UU        UU  TTTTTTTTTTT
PPPPPPPPPPP  RRRRRRRRRRR   IIIIIIIII   MMM      MMM  OOOOOOOOOOO  UU        UU  TTTTTTTTTTT
PP        PP RR        RR      II      MMMM    MMMM  OO         OO  UU        UU      TT
PP        PP RR        RR      II      MM MM  MM MM  OO         OO  UU        UU      TT
PP        PP RR        RR      II      MM  MMMM  MM  OO         OO  UU        UU      TT
PPPPPPPPPPP  RRRRRRRRRRR       II      MM   MM   MM  OO         OO  UU        UU      TT
PPPPPPPPPP   RRRRRRRRRR        II      MM        MM  OO         OO  UU        UU      TT
PP           RR    RR          II      MM        MM  OO         OO  UU        UU      TT
PP           RR     RR         II      MM        MM  OO         OO  UU        UU      TT
PP           RR      RR        II      MM        MM  OO         OO  UU        UU      TT
PP           RR       RR    IIIIIIIII  MM        MM  OOOOOOOOOOO  UUUUUUUUUUU       TT
PP           RR        RR   IIIIIIIII  MM        MM  OOOOOOOOOOO   UUUUUUUUU        TT
```

```
              AAAAAAAAAA                                                  00000000
             AAAAAAAAAAAA                                                0000000000
             AA        AA                                               00        00
             AA        AA                                               00        00
             AA        AA                                               00        00
             AAAAAAAAAAAA                                               00        00
             AAAAAAAAAAAA                                               00        00
             AA        AA                                               00        00
             AA        AA                                               00        00
             AA        AA                                               00        00
             AA        AA                                               00        00
             AA        AA                                                0000000000
             AA        AA                                                 00000000
```

```
   2    3    5    7   11   13   17   19   23   29   31   37   41   43   47   53   59
  73   79   83   89   97  101  103  107  109  113  127  131  137  139  149  151  157
 179  181  191  193  197  199  211  223  227  229  233  239  241  251  257  263  269
 283  293  307  311  313  317  331  337  347  349  353  359  367  373  379  383  389
 419  421  431  433  439  443  449  457  461  463  467  479  487  491  499  503  509
 547  557  563  569  571  577  587  593  599  601  607  613  617  619  631  641  643
 661  673  677  683  691  701  709  719  727  733  739  743  751  757  761  769  773
 811  821  823  827  829  839  853  857  859  863  877  881  883  887  907  911  919
 947  953  967  971  977  983  991  997 1009 1013 1019 1021 1031 1033 1039 1049 1051
1087 1091 1093 1097 1103 1109 1117 1123 1129 1151 1153 1163 1171 1181 1187 1193 1201
1229 1231 1237 1249 1259 1277 1279 1283 1289 1291 1297 1301 1303 1307 1319 1321 1327
1381 1399 1409 1423 1427 1429 1433 1439 1447 1451 1453 1459 1471 1481 1483 1487 1489
1523 1531 1543 1549 1553 1559 1567 1571 1579 1583 1597 1601 1607 1609 1613 1619 1621
1663 1667 1669 1693 1697 1699 1709 1721 1723 1733 1741 1747 1753 1759 1777 1783 1787
1823 1831 1847 1861 1867 1871 1873 1877 1879 1889 1901 1907 1913 1931 1933 1949 1951
1993 1997 1999

303 primes up to     2000 found
```

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```
**********************************************************************************************************************************
**********************************************************************************************************************************
**********************************************************************************************************************************
**********************************************************************************************************************************
```

```
HH        HH  EEEEEEEEEEEE  RRRRRRRRRRR    CCCCCCCCCC     00000000        11        SSSSSSSSS
HH        HH  EEEEEEEEEEEE  RRRRRRRRRRRR  CCCCCCCCCCCC   0000000000      111       SSSSSSSSSSS
HH        HH  EE            RR        RR  CC        CC  00        00    1111       SS        SS
HH        HH  EE            RR        RR  CC            00        00      11       SS
HH        HH  EE            RR        RR  CC            00        00      11       SSS
HHHHHHHHHHHH  EEEEEEE       RRRRRRRRRRRR  CC            00        00      11        SSSSSSSSS
HHHHHHHHHHHH  EEEEEEE       RRRRRRRRRRR   CC            00        00      11         SSSSSSSSS
HH        HH  EE            RR    RR      CC            00        00      11                SSS
HH        HH  EE            RR     RR     CC            00        00      11                 SS
HH        HH  EE            RR      RR    CC        CC  00        00      11        SS       SS
HH        HH  EEEEEEEEEEEE  RR       RR   CCCCCCCCCCCC   0000000000   1111111111   SSSSSSSSSSS
HH        HH  EEEEEEEEEEEE  RR        RR   CCCCCCCCCC     00000000    1111111111    SSSSSSSSS
```

```
          JJ  000000000000  BBBBBBBBBB                                  44     3333333333    9999999999
          JJ  000000000000  BBBBBBBBBBB                                444    333333333333  999999999999
          JJ  OO        OO  BB        BB                              4444    33        33  99        99
          JJ  OO        OO  BB        BB                             44 44              33  99        99
          JJ  OO        OO  BB        BB                            44  44              33  99        99
          JJ  OO        OO  BBBBBBBBBB                             44   44          3333   999999999999
          JJ  OO        OO  BBBBBBBBBB                            44    44          3333    99999999999
          JJ  OO        OO  BB        BB                         44444444444           33            99
JJ        JJ  OO        OO  BB        BB                        444444444444           33            99
JJ        JJ  OO        OO  BB        BB                              44    33        33  99        99
JJJJJJJJJJ    000000000000  BBBBBBBBBB                                44    333333333333  999999999999
 JJJJJJJJJ    000000000000  BBBBBBBBBB                                44     3333333333    9999999999
```

```
          JJ  000000000000  BBBBBBBBBB                EEEEEEEEEEEE  NN        NN  DDDDDDDDDD
          JJ  000000000000  BBBBBBBBBBB               EEEEEEEEEEEE  NNN       NN  DDDDDDDDDDD
          JJ  OO        OO  BB        BB              EE            NNNN      NN  DD        DD
          JJ  OO        OO  BB        BB              EE            NN NN     NN  DD        DD
          JJ  OO        OO  BB        BB              EE            NN  NN    NN  DD        DD
          JJ  OO        OO  BBBBBBBBBB                EEEEEEE       NN   NN   NN  DD        DD
          JJ  OO        OO  BBBBBBBBBB                EEEEEEE       NN    NN  NN  DD        DD
          JJ  OO        OO  BB        BB              EE            NN     NN NN  DD        DD
JJ        JJ  OO        OO  BB        BB              EE            NN      NNNN  DD        DD
JJ        JJ  OO        OO  BB        BB              EE            NN       NNN  DD        DD
JJJJJJJJJJ    000000000000  BBBBBBBBBB                EEEEEEEEEEEE  NN        NN  DDDDDDDDDD
 JJJJJJJJJ    000000000000  BBBBBBBBBB                EEEEEEEEEEEE  NN         N  DDDDDDDDDD
```

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