of the form $g_1(x_1,x_2) = x_1^2 - x_2^2 \leq 0$ and $g_2(x_1,x_2) = x_1 + x_2 \leq 0$, the required statements (in double precision) are

```
      DOUBLE PRECISION FUNCTION G(L,X,N)
      DOUBLE PRECISION X
      DIMENSION X(2)
      GO TO (1,2),L
    1 G = X(1)**2 - X(2)**2
      RETURN
    2 G = X(1) + X(2)
      RETURN
      END
```

Comments

The package has been programmed to handle up to 10 variables and a complex of 21 vertices. These restrictions may be changed by the user. The input parameters α, β, γ, and v should be chosen within the ranges $1.3 \leq \alpha \leq 2.0$; $0.2 \leq \beta \leq 1.0$; $0 \leq \gamma \leq 2.0$; and $n + 1 \leq v \leq 2n + 1$. The program was run in double precision arithmetic and used 38K units of computer memory. This includes the numerical example provided with the ASIS/NAPS Document. The numerical example has been taken from [4]. The problem has five variables and six implicit constraints. It took 14.7 s of computer time to obtain the solution to a tolerance of $\epsilon = 10^{-4}$.

Acknowledgment

The author wishes to thank the Computing Centre of the University of Ottawa for the provision of computing and other facilities.

References

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CANOPT—Cascaded Network Optimization Package

PURPOSE: The program analyzes and optimizes certain cascaded linear time-invariant networks in the frequency domain made up of two-port elements such as resistors, inductors, capacitors, lossless transmission lines, lossless short-circuited, and open-circuited transmission line stubs, series and parallel *RLC* resonant circuits and microwave allpass *C*- and *D*-sections.

LANGUAGE: Fortran IV; 1578 cards.

AUTHORS: J. W. Bandler and J. R. Popović, Communications Research Laboratory and Department of Electrical Engineering, McMaster University, Hamilton, Ontario, Canada, L8S 4L7.

AVAILABILITY: ASIS/NAPS Document No. 02300. User's manual with an example and program listing is also available from J. W. Bandler at $30.00. A copy of the source deck will be made available for $100.00.

DESCRIPTION: A companion paper [1] in this issue presents the theory and organization of the package. The user's manual referred to above [2] has details on how to use the program and an additional example.

The package was tested on a CDC 6400, and requires about $18K_{10}$ or around 45 000 words in octal.

References

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Manuscript received November 9, 1973. This work was supported in part by the National Research Council of Canada under Grant A7239 and the Communications Research Laboratory, McMaster University, Hamilton, Ont., Canada.

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