



# DECUS

## PROGRAM LIBRARY

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| DECUS NO.       | 8-284  |
| TITLE           | ASCO - NUMERICAL SORT IN ASCENDING ORDER   |
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| SOURCE LANGUAGE | FORTRAN D  |

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# ASCO - NUMERICAL SORT IN ASCENDING ORDER

DECUS Program Library Write-up

DECUS No. 8-284

## Summary

This program sorts the data into ascending numerical order.

## Tapes Required

Form of program tape - The program is written in the PDP-8 FORTRAN-D language and is in the source language.

Form of data tape - The first number on the data tape is the number of data to be sorted, followed by the data themselves. If there is more than one block of data, succeeding blocks will also be preceded by the number of data in that block.

## Operating Instructions

```
.FORT           Source program in high speed reader
*OUT-S:ASCO
*
*IN-R:
* ↑
*               Data tape in high speed reader
*READY
```

The program will then pause and request entry of the number of blocks. This should be entered on the keyboard and terminated by "Return." If an output tape is required, switch on the low-speed punch before typing "Return."

If the program has already been compiled on to the disk, it may be called into store as follows:

```
.FOSL
*IN-S: ASCO
*
*OPT-
* ↑           Data tape in high speed reader
*READY
```

The operation of the program then follows as usual.

## Output

The program prints the data in ascending order and punches an output tape if required.



## Storage

Not more than 250 data may be in a single block. The number of blocks is unlimited.

```
L
C SYKES NUMERICAL SORT IN ASCENDING ORDER ASCO
  DIMENSION T(250)
100 FORMAT(I)
101 FORMAT(/, E)
104 FORMAT(/, "ENTER NO. OF BLOCKS ON KEYBOARD", /)
  TYPE104
  ACCEPT100, N
  DO1 NO=1, N
  READ2, 100, K
  DO2 I=1, K
  READ2, 101, T(I)
2 CONTINUE
  L=K-1
4 I=0
7 IF(T(I+2)-T(I+1))6,6,5
6 Z=T(I+1)
  T(I+1)=T(I+2)
  T(I+2)=Z
5 I=I+1
  IF(I-L)7,8,7
8 L=L-1
  IF(L)4,9,4
9 DO10 I=1, K
  WRITE1, 101, T(I)
10 CONTINUE
102 FORMAT(/, /, /)
  TYPE102
1 CONTINUE
  END
*
```