Identification

Introduction to GECOS
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GECOS is a multi-programmed, otherwise ordinary, batch-processing system. That is,

(a)   Gross flow within each job is under control-card control, and

(b)   A user program may place itself in an I/O wait ('ROADBLOCKED') status, whereupon it will be swapped out and another program will run.

Each GECOS job consists of n 'activities', where $1 \leq n \leq 35$. Each activity corresponds to a group of control and data cards in the input stream. An assembly, a compilation, or an execution of user programs is an activity.

Supervisor entries allow any user program to announce to the supervisor that

(a)   The present activity should be terminated ('GEFINI', a sort of CHNCOM), or

(b)   The job should be terminated ('GEBORT').

Under GECOS, programs refer to their files by using two-character file codes. For example, the "WRITE (3)" statement in FORTRAN is a reference to the file named '03'. When using FORTRAN or the File and Record Control system (GEFRC), file reference is device-independent. Machine-language programs, however, must know the types of devices on which their files live.

These device-type assignments are made with control cards accompanying the activity. Two types of control cards are of interest:

(a)   The $DISC control card associates a given file code with the disc as device, a symbolic device code, and a disc allotment for the file.

(b)   The $DATA control card associates a given file code with the disc as device. The $DATA card is followed in the input stream by the cards whose images will comprise the initial contents of the file in question.

The device codes look somewhat like 7094 tape designations, such
as A3, B12, etc. The range of permissible letters used is a
function of the configuration, even though there is no fixed
correlation between letters and hardware components. The
numerical portion of a device code must be less than 65, and
probably must be less than 50. A maximum of 48 distinct
device codes may be used during one job. If two files of a
job are associated with the same device code, then they are
the same file.

Not only must every file be announced to the system via $DISC
or $DATA cards, but disc space must be preallotted to non-
$DATA files. Disc space is allotted in 'blocks' of 3840
words.

A maximum of 16 $DATA cards may be associated with a given
activity. A maximum of 36 disc blocks may be used by $DATA
files in a single job.

A supervisor entry ('GEFADD') like CTSS' FSTATE allows the
user programs to test the existence of files.