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LOCK

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ABSTRACT

LOCK is a miscellaneous utility program operating under the ITS system. It allows the user to easily and conveniently perform a variety of infrequently required tasks. Most of these relate to console input-output or the operation of the ITS system.

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1. Introduction

LOCK is a miscellaneous utility program available under the ITS system at the MIT Artificial Intelligence Laboratory. Numerous commands are available in LOCK related to console input-output, the operation of the ITS system, LOCK itself, and a few other things.

LOCK types out a "_" or leftarrow as a prompt character when it is ready to accept a command. Commands are started by any character that is not a digit or a break character. They may be preceded by a numeric argument which is interpreted in octal. The word "argument" in the description of individual commands below always refers to this numeric prefix argument. Commands are executed as soon as they are completely typed (i. e., no terminator is required). Before complete, they may be aborted by typing a rub-out.

In the description of several commands below, it is stated that they put LOCK in a "permanent mode". This just means that LOCK, which does all console input at the main program level, will not listen for any further commands. However, LOCK can be returned to its listen loop, if it is running under a HACTRN, by typing "^Z $G".

2. Command Descriptions

2A. Teletype Commands

+, - These commands allow a user to "lock" and "unlock" a limited number of consoles, the original function for which LOCK was named. The + command should be preceded by a console number. If the console is free, LOCK will open it as a device and type out on it a message saying that it has been locked by the user. LOCK will also type a "W" at the user. When open as a device a console will ignore ^Z's or other attention signals. If for some reason the console can't be opened, an "L" will be typed at the user but if the maximum number of teletypes that can be locked are already locked, a "?" will be typed.

If a console number is typed before the - command, LOCK will type a "*" at the user and unlock the console if it is locked by that LOCK. If no argument is given to a - command or the argument is not a locked console number, LOCK just types out a "?".

", _, 0 These commands are useful in determining the effect of particular character codes on output to a terminal and the character code that is input by various actions at a terminal. The _ (or leftarrow) command takes as

its argument a character code which it proceeds to output as a character. (In a few cases this code may not get to the terminal due to transformations by the ITS system.)

The " command causes LOCK to type back the next character typed in as the octal of its character code. The C command causes LOCK to enter a permanent mode in which it types back each character it receives as the octal of its character code followed by a carriage-return line-feed. (In a few cases characters typed on a console may be transformed by ITS before they reach LOCK or may have control effects on ITS.)

I37 This command is rarely used nowadays. It outputs a character string that properly initializes certain model 37 teletypes for use as full duplex ITS consoles.

SPEED This command allows the input and output speeds of consoles on the Systems Concepts, Inc. DK-1Ø controller to be set. If there is no argument given, the command is interpreted as applying to the console that LOCK is being used from. Otherwise, an argument is interpreted as the number of a console to be affected. If the console whose speed is to be changed is not on the DK-1Ø controller, a "?" is typed. If it is on the DK-1Ø controller, LOCK will ask the user to type first an input speed and then an output speed. These speed numbers should be terminated by a non-digit and can

be omitted if the particular speed is not to change. The following are the available speeds: 11Ø, 135, 15Ø, 3ØØ, 6ØØ, 12ØØ, 24ØØ, and 48ØØ. (Although these numbers are read and recognized by LOCK in octal, they represent the typographicly similar decimal number.)

SPY, FLASH These commands allow a user to observe the character stream arriving from a particular console without interfering with that console's input or ourput. The SPY command should be preceded by a console number. It causes LOCK to go into a permanent mode outputting to the user characters that are input to ITS on that console. Since the input from console 1Ø is not in ASCII and is not translated by ITS to ASCII, the FLASH command, which takes no argument, is available to spy more effectively on this console.

2B. System Commands

DOWN, REVIVE These commands allow the user to activate and deactivate the ITS system going down feature. The DOWN command must be given an argument equal to or greater than 5. This will be interpreted as the length of time in minutes until the system will go down. (Remember that this number will be read as octal.) A DOWN command will type a "?" and have no effect if the system is already going down in a lesser time.

The REVIVE command causes ITS to leave the system going down mode. It takes no argument.

Since both the DOWN and the REVIVE commands affect all users on a system and cause messages to be printed out on almost all consoles, LOCK does not actually try to do them until the user has confirmed his desire by typing "Y" at a confirmation question asked by LOCK. The user should be sure of what he is doing before using these commands.

SYS, TPL These commands give the user limited control over the ITS system job. Neither takes an argument. The SYS command complements the state of the system checker part of the system job which, when on, checks for clobbered locations in the constant parts of the ITS system. After a SYS command, LOCK prints the enablement status of the system checker.

The TPL command affects the spooling routines in the system job which, when on, line print buffered files in the .LPTR. directory on the disk. Each time the TPL command is given, the currently printing file, if any, is stopped and deleted.

TEST The purpose of this command is to test the core allocator and swapping routines of ITS. It causes LOCK to go into a permanent mode in which it randomly creates inferiors

and copies itself into them starting them at the TEST code. In the meanwhile, all these procedures do limited random size core request. The casual use of this command is not recommended.

2C. Autonomous Commands

P This command causes console control to revert to the superior procedure of the LOCK and the LOCK to be halted but in a manner such that it can be proceeded. None of LOCK's channels are closed and any locked consoles will stay locked (see +, -).

Q This command valrets a :KILL so that if LOCK is running under a HACTRN it will be killed and console control will revert to the HACTRN. All of LOCK's channels will be closed freeing any locked consoles (see +, -).

? This command causes LOCK to list most of its commands along with a short explanation of each.

2D. Miscellaneous Commands

GUN This command allows a user to excise a procedure tree from the system. The tree to be gunned down is specified by its apex procedure.

If the GUN command is preceded by an argument, this is taken to be the user number of a procedure. If not such an index a "?" is typed out and nothing else done. If the argument is such an index, LOCK types a confirmation question containing the UNAME and JNAME of the procedure specified. If the user then types anything other than a "Y" the command is aborted. If the user types a "Y" LOCK will try to gun down the specified procedure and will type a "?" if it fails (perhaps because the specified procedure was not an apex procedure).

If the GUN command is given no argument, the user is asked for the UNAME and JNAME of the apex procedure he wishes to gun down. If these specify an appropriate extant procedure, it is gunned down. Otherwise a "?" is typed out.

UCLEAR This command is used to initialize DECtape directories. The UCLEAR command should be given an argument which is the number of a DECtape drive. On this drive a marked tape should have been mounted but the directory of this tape must not have been read in by ITS. Since initializing the directory of a tape will make it difficult to recover any old files on it, LOCK asks the user to confirm that he wished to UCLEAR the tape. It then assigns (required by ITS for initialization) the drive to him and initializes the tape. (LOCK should be running with the same system name as the user's log in name.)

3. Alphabetic Command List

Command	Section
"	2A
+	2A
-	2A
_	2A
DOWN	2B
FLASH	2A
GUN	2D
I37	2A
O	2A
P	2C
Q	2C
REVIVE	2B
SPEED	2A
SYS	2B
TEST	2B
TPL	2B
UCLEAR	2D
?	2C

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