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General				
R ← □FAVAIL	Checks the file system availability (returns 1 if available, 0 otherwise)			
R ← □FNUMS	Lists the tie numbers of all tied files			
R ← □FNAMES	Lists the names of all tied files			
R ← □FLIB Y	Lists the names of the component files in directory Y			
File operations				
<pre>{R} ← X □FCREATE Y Variants can be specified</pre>	Creates a new file with name (and, optionally, file size limit in bytes) X and file tie number (and, optionally, address size – 64) Y; a tie number of 0 allocates the next available tie number to the file			
{R} ← X □FTIE Y	Exclusively-ties the file that has name X using file tie number* Y			
{R} ← X □FSTIE Y	Share-ties the file that has name X using file tie number* Y			
{R} ← □FUNTIE Y	Unties all files that have a tie number in vector Y			
R ← X □FCOPY Y Variants can be specified	Copies the file that has tie number* Y to the new name X – this can be used to convert small span files to large span files without altering component access timestamps			
{R} ← X □FERASE Y	Erases the tied file that has name X and file tie number* Y			
{R} ← X □FRENAME Y	Renames the exclusively-tied file that has file tie number * Y to have name X			
R ← □FHIST Y	Returns the history of the file that has file tie number* Y			
R ← □FSIZE Y	Returns information on the number of the first component within the file that has file tie number* Y, the number of the next component to be appended, the current file size and the file size limit			
{R} ← {X} □FRESIZE Y	Relocates components within the file that has file tie number* Y to eliminate any redundant space between them and reduces the file size to a maximum size X – if X is not specified then the maximum possible size is allocated to the file			
R ← X □FPROPS Y	Reports and sets the properties of the file that has file tie number* Y according to the identifiers specified in X			
R ← □FCHK Y Variants can be specified	Checks untied file Y – variants can be specified to indicate the action to take if this validation fails, for example R ← □FCHK 🗄 1 ⊢ Y attempts to repair file Y if a problem is found			
Component operations				
{R} ← X □FAPPEND Y	Appends array X as a component to the file that has tie number* Y			
{R} ← X □FREPLACE Y	Replaces a component in a file identified by file tie number and component number st Y with X			
R ← []FREAD Y	Reads the content of a component in the file identified by file tie number and component number* \mathbf{Y}			
R ← []FRDCI Y	s information on the size of the component file that has file tie number* Y, the user er of the user who last updated it and the time since it was last updated in sixtieths of a d since 1 st January 1970			
{R} ← □FDROP Y	Drops a block of components from the file as identified by Y – this comprises the file tie number* and the number of components to be dropped (a positive number indicates they are to be dropped from the beginning of the file, a negative number indicates they are to be dropped from the end of the file)			
Manipulating access to a file				
{R} ← X □FSTAC Y	Sets the access permissions of the file with file tie number * Y according to the access matrix X			
R ← □FRDAC Y	Returns the access matrix for the file that has file tie number* Y			
{R} ← □FHOLD Y	Holds the files that have file tie numbers* Y			

* indicates that Y can, optionally, also include a passnumber

If no file extension is specified with a filename, then an extension of .dws is assumed (Microsoft Windows version only)

See the Dyalog documentation set for full details of these system functions, including variant options

CHEAT SHEET

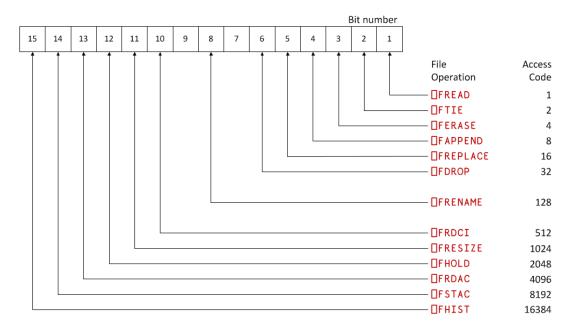
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Access Control

Dyalog's access matrix is an integer matrix with 3 columns and any number of rows.

- column 1 contains user numbers (as defined by the APLNID environment variable)
- column 2 contains an encoding of permitted file operations
- column 3 contains passnumbers

Each row specifies the file operations that can be performed by that row's user number/passnumber combination. The pertinent file operations and their associated access codes are shown in the following integer representation of a Boolean mask (where each bit in the mask indicates whether or not a particular file operation is permitted):



To determine the appropriate access code for a user, sum the access codes for that user's permitted file operations. A value of -1 (all bits set) permits all operations; this means that an alternative way of determining the appropriate access code for a user is to subtract the access codes of any file operations that are forbidden to that user from -1. Note that:

- Any non-zero permission code allows **[FSTIE** and **[FSIZE**
- GFCREATE, GFUNTIE, GFLIB, FNAMES and FNUMS are not subject to access control
- Passnumbers can be used to establish different levels of access for the same user

Component File Properties ([FPROPS)

Identifier	Property	Valid Values	Default
S	File Size	32 = small-span component files (maximum file size < 4 GB)	64
	(read-only)	64 = large-span component files	
E Endianness (read-only)	Endianness	0 = little-endian	depends on computer
	1 = big-endian	architecture	
U Unicode	Liningdo	0 = characters are written as type 82 arrays	1 for Unicode edition and 64-bit file, 0 otherwise
	Unicode	1 = characters can be written as Unicode arrays	
J Journalin		0 = disable journaling	1 (can be changed using the APL_FCREATE_PROPS_J environment variable)
		1 = enable APL crash proof journaling	
	Journaling	2 = enable System crash proof journaling; repair needed on recovery	
		3 = enable full System crash proof journaling	
с с	Checksum	0 = disable checksum	1 (can be changed using the APL_FCREATE_PROPS_C environment variable)
		1 = enable checksum	