NAME

magic – file command's magic number file

SYNOPSIS

/etc/magic

DESCRIPTION

The **file**(1) command identifies the type of a file using, among other tests, a test for whether the file begins with a certain *magic number*. The **/etc/magic** file specifies what magic numbers are to be tested for, what message to print if a particular magic number is found, and additional information to extract from the file.

Each line of the file specifies a test to perform. A test compares the data starting at a particular offset in the file with a 1-byte, 2-byte, or 4-byte numeric value or a string. If the test succeeds, a message is printed. The line consists of the following fields (separated by tabs):

offset *type* *value* *message*

offset A number specifying the offset, in bytes, into the file of the data which is to be tested.

type The type of the data to be tested. The possible values are:

byte A one-byte value.

short A two-byte value.

long A four-byte value.

string A string of bytes.

The types **byte**, **short**, and **long** may optionally be followed by a mask specifier of the form **&***number*. If a mask specifier is given, the value is AND'ed with the *number* before any comparisons are done. The *number* is specified in C form. For instance, **13** is decimal, **013** is octal, and **0x13** is hexadecimal.

value The value to be compared with the value from the file. If the type is numeric, this value is specified in **C** form. If it is a string, it is specified as a **C** string with the usual escapes permitted (for instance, \n for NEWLINE).

Numeric values may be preceded by a character indicating the operation to be performed. It may be '**=**', to specify that the value from the file must equal the specified value, '**<**', to specify that the value from the file must be less than the specified value, '**>**', to specify that the value from the file must be greater than the specified value, '**&**', to specify that all the bits in the specified value must be set in the value from the file, '**^**', to specify that at least one of the bits in the specified value must not be set in the value from the file, or **x** to specify that any value will match. If the character is omitted, it is assumed to be '**=**'.

For string values, the byte string from the file must match the specified byte string. The byte string from the file which is matched is the same length as the specified byte string.

message The message to be printed if the comparison succeeds. If the string contains a **printf**(3S) format specification, the value from the file (with any specified masking performed) is printed using the message as the format string.

Some file formats contain additional information which is to be printed along with the file type. A line which begins with the character '**>**' indicates additional tests and messages to be printed. If the test on the line preceding the first line with a '**>**' succeeds, the tests specified in all the subsequent lines beginning with '**>**' are performed, and the messages printed if the tests succeed. The next line which does not begin with a '**>**' terminates this.

FILES

/etc/magic

SEE ALSO

file(1), **file**(1B), **printf**(3S)

BUGS

There should be more than one level of subtests, with the level indicated by the number of '**>**' at the beginning of the line.