

**NAME**

diff – differential file comparator

**SYNOPSIS**

**diff** [ – ] name1 name2

**DESCRIPTION**

*Diff* tells what lines must be changed in two files to bring them into agreement. The normal output contains lines of these forms:

```
n1 a n3,n4
n1,n2 d n3
n1,n2 c n3,n4
```

These lines resemble *ed* commands to convert file *name1* into file *name2*. The numbers after the letters pertain to file *name2*. In fact, by exchanging ‘a’ for ‘d’ and reading backward one may ascertain equally how to convert file *name2* into *name1*. As in *ed*, identical pairs where  $n1 = n2$  or  $n3 = n4$  are abbreviated as a single number.

Following each of these lines come all the lines that are affected in the first file flagged by ‘\*’, then all the lines that are affected in the second file flagged by ‘.’.

Under the – option, the output of *diff* is a script of *a*, *c* and *d* commands for the editor *ed*, which will change the contents of the first file into the contents of the second. In this connection, the following shell program may help maintain multiple versions of a file. Only an ancestral file (\$1) and a chain of version-to-version *ed* scripts (\$2,\$3,...) made by *diff* need be on hand. A ‘latest version’ appears on the standard output.

```
(cat $2 ... $9; echo "1,$p") | ed - $1
```

*Diff* does an optimal and unfailing job of detecting the file differences, and also reports these differences side-by-side. However, *diff* uses a quadratic algorithm that usually slows to a crawl on 2000-line files.

**SEE ALSO**

cmp (1), comm (1), ed (1)

**DIAGNOSTICS**

‘can’t open input’

‘arg count’

‘jackpot’ – To speed things up, the program uses hashing. You have stumbled on a case where there is a minuscule chance that this has resulted in an unnecessarily long list of differences being published. It’s a curio that we’d like to see.

**BUGS**

Editing scripts produced under the – option are naive about creating lines consisting of a single ‘.’.