```
 1: // $Id: catbyline.c,v 1.5 2014-01-28 17:59:24-08 - - $
 2:
 3: //
 4: // NAME
 5: //     catbyline - example of simple cat to display files
 6: //
 7: // SYNOPSIS
 8: //     catbyline [filename...]
 9: //
10: // DESCRIPTION
11: //     Uses fgets to read lines from files and prints to stdout.
12: //     If no filenames are specified, reads stdin.
13: //     Does not consider whether input buffer is too short.
14: //
15:
16: #include <errno.h>
17: #include <libgen.h>
18: #include <stdio.h>
19: #include <stdlib.h>
20: #include <string.h>
21:
22: char *program_name = NULL;
23: int exit_status = EXIT_SUCCESS;
24: #define STDIN_NAME "-"
25:
26: void catbyline (FILE *input, char *filename) {
27:    char buffer[1024];
28:    printf ("FILE %s:\n", filename);
29:    for (int linenr = 1;; ++linenr) {
30:       char *buf = fgets (buffer, sizeof buffer, input);
31:       if (buf == NULL) break;
32:       printf ("%6d: %s", linenr, buf);
33:    }
34: }
35:
```

```
36:
37: int main (int argc, char **argv) {
38:    program_name = basename (argv[0]);
39:    if (argc == 1) {
40:       catbyline (stdin, STDIN_NAME);
41:    }else {
42:       for (int argi = 1; argi < argc; ++argi) {
43:          char *filename = argv[argi];
44:          if (strcmp (filename, STDIN_NAME) == 0) {
45:             catbyline (stdin, STDIN_NAME);
46:          }else {
47:             FILE *input = fopen (filename, "r");
48:             if (input != NULL) {
49:                catbyline (input, filename);
50:                fclose (input);
51:             }else {
52:                exit_status = EXIT_FAILURE;
53:                fflush (NULL);
54:                fprintf (stderr, "%s: %s: %s\n", program_name,
55:                         filename, strerror (errno));
56:                fflush (NULL);
57:             }
58:          }
59:       }
60:    }
61:    return exit_status;
62: }
63:
64: //TEST// cal 9 1752 >cal.1752.09; cal 4 2013 >cal.2013.04
65: //TEST// catbyline cal.1752.09 cal.2013.04 >catbyline.out
66: //TEST// mkpspdf catbyline.ps catbyline.c* catbyline.out*
67:
```

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1: * @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@ mkc: starting catbyline.c
2: * catbyline.c: $Id: catbyline.c,v 1.5 2014-01-28 17:59:24-08 - - $
3: * gcc -g -O0 -Wall -Wextra -std=gnu99 catbyline.c -o catbyline -lm
4: * rm -f catbyline.o
5: * @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@ mkc: finished catbyline.c
```

```
 1:  FILE cal.1752.09:
 2:      1:       September 1752
 3:      2: Su Mo Tu We Th Fr Sa
 4:      3:        1  2 14 15 16
 5:      4: 17 18 19 20 21 22 23
 6:      5: 24 25 26 27 28 29 30
 7:      6:
 8:      7:
 9:      8:
10:  FILE cal.2013.04:
11:      1:         April 2013
12:      2: Su Mo Tu We Th Fr Sa
13:      3:     1  2  3  4  5  6
14:      4:  7  8  9 10 11 12 13
15:      5: 14 15 16 17 18 19 20
16:      6: 21 22 23 24 25 26 27
17:      7: 28 29 30
18:      8:
```