```
 1: // $Id: catbychar.c,v 1.5 2014-01-28 17:59:24-08 - - $
 2:
 3: //
 4: // NAME
 5: //     catbychar - example of simple cat to display files
 6: //
 7: // SYNOPSIS
 8: //     catbychar [filename...]
 9: //
10: // DESCRIPTION
11: //     Uses fgetc(3) to read bytes from files.
12: //     If no filenames are specified, reads stdin.
13: //
14:
15: #include <errno.h>
16: #include <libgen.h>
17: #include <stdio.h>
18: #include <stdlib.h>
19: #include <string.h>
20:
21: #define STDIN_NAME "-"
22: char *program_name = NULL;
23: int exit_status = EXIT_SUCCESS;
24:
25: void catbychar (FILE *input, char *filename) {
26:    printf ("FILE %s:\n", filename);
27:    for (;;) {
28:       int byte = fgetc (input);
29:       if (byte == EOF) break;
30:       putchar (byte);
31:    }
32: }
33:
```

```
34:
35: int main (int argc, char **argv) {
36:    program_name = basename (argv[0]);
37:    if (argc == 1) {
38:       catbychar (stdin, STDIN_NAME);
39:    }else {
40:       for (int argi = 1; argi < argc; ++argi) {
41:          char *filename = argv[argi];
42:          if (strcmp (filename, STDIN_NAME) == 0) {
43:             catbychar (stdin, STDIN_NAME);
44:          }else {
45:             FILE *input = fopen (filename, "r");
46:             if (input != NULL) {
47:                catbychar (input, filename);
48:                fclose (input);
49:             }else {
50:                exit_status = EXIT_FAILURE;
51:                fflush (NULL);
52:                fprintf (stderr, "%s: %s: %s\n", program_name,
53:                         filename, strerror (errno));
54:                fflush (NULL);
55:             }
56:          }
57:       }
58:    }
59:    return exit_status;
60: }
61:
62: //TEST// ls -bgoa | catbychar >catbychar.out
63: //TEST// mkpspdf catbychar.ps catbychar.c* catbychar.out*
64:
```

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

```
 1: FILE -:
 2: total 278
 3: drwx------. 3  2048 Jan 28 17:59 .
 4: drwx------. 6  2048 Jan 28 17:54 ..
 5: drwx------. 2  2048 Jan 28 17:59 RCS
 6: -rwx------. 1 11676 Jan 28 17:59 catbychar
 7: -rw-------. 1  1561 Jan 28 17:59 catbychar.c
 8: -rw-------. 1   276 Jan 28 17:59 catbychar.c.log
 9: -rw-------. 1     0 Jan 28 17:59 catbychar.out
10: -rw-------. 1 29147 Jan 28 17:37 catbychar.pdf
11: -rw-------. 1 22370 Jan 28 17:37 catbychar.ps
12: -rwx------. 1 11711 Jan 28 17:37 catbyline
13: -rw-------. 1  1795 Jan 28 17:58 catbyline.c
14: -rw-------. 1   276 Jan 28 17:37 catbyline.c.log
15: -rw-------. 1   408 Jan 28 17:37 catbyline.out
16: -rw-------. 1 28084 Jan 28 17:37 catbyline.pdf
17: -rw-------. 1 21176 Jan 28 17:37 catbyline.ps
18: -rwx------. 1 11604 Jan 28 17:37 getoptex
19: -rw-------. 1  1936 Jan 28 17:37 getoptex.c
20: -rw-------. 1   269 Jan 28 17:37 getoptex.c.log
21: -rw-------. 1   119 Jan 28 17:37 getoptex.out
22: -rw-------. 1 28015 Jan 28 17:37 getoptex.pdf
23: -rw-------. 1 20974 Jan 28 17:37 getoptex.ps
24: -rwx------. 1  8189 Jan 28 17:37 undefvar
25: -rw-------. 1   570 Jan 28 17:37 undefvar.c
26: -rw-------. 1   589 Jan 28 17:37 undefvar.c.log
27: -rw-------. 1  5038 Jan 28 17:37 undefvar.out
28: -rw-------. 1 34018 Jan 28 17:37 undefvar.pdf
29: -rw-------. 1 26751 Jan 28 17:37 undefvar.ps
```