

```
1: // $Id: getoptex.c,v 1.8 2013-04-24 21:03:46-07 - - $
2:
3: //
4: // NAME
5: //     getoptex - getopt(3) example
6: //
7: // SYNOPSIS
8: //     getoptex [-ilm] operands
9: //
10: // DESCRIPTION
11: //     An example to show how getopt(3) is used. After scanning
12: //     options, all options and operands are printed.
13: //
14:
15: #include <libgen.h>
16: #include <stdbool.h>
17: #include <stdio.h>
18: #include <stdlib.h>
19: #include <unistd.h>
20:
21: char *program_name = NULL;
22: int exit_status = EXIT_SUCCESS;
23:
24: typedef struct options {
25:     bool ignore_case;
26:     bool filenames_only;
27:     bool number_lines;
28: } options;
29:
30: void scan_options (int argc, char **argv, options *opts) {
31:     opts->ignore_case = false;
32:     opts->filenames_only = false;
33:     opts->number_lines = false;
34:     opterr = false;
35:     for (;;) {
36:         int opt = getopt (argc, argv, "ilm");
37:         if (opt == EOF) break;
38:         switch (opt) {
39:             case 'i':
40:                 opts->ignore_case = true;
41:                 break;
42:             case 'l':
43:                 opts->filenames_only = true;
44:                 break;
45:             case 'm':
46:                 opts->number_lines = true;
47:                 break;
48:             default:
49:                 exit_status = EXIT_FAILURE;
50:                 fflush (NULL);
51:                 fprintf (stderr, "%s: -%c: invalid option\n",
52:                     program_name, optopt);
53:                 break;
54:         }
55:     }
56: }
57:
```

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58:
59: const char *strbool (bool value) {
60:     return value ? "true" : "false";
61: }
62:
63: int main (int argc, char **argv) {
64:     options opts;
65:     program_name = basename (argv[0]);
66:     scan_options (argc, argv, &opts);
67:     printf ("ignore_case = %s\n", strbool (opts.ignore_case));
68:     printf ("filenames_only = %s\n", strbool (opts.filenames_only));
69:     printf ("number_lines = %s\n", strbool (opts.number_lines));
70:     for (int argi = optind; argi < argc; ++argi) {
71:         printf ("operand[%d] = \"%s\"\n", argi, argv[argi]);
72:     }
73:     return exit_status;
74: }
75:
76: //TEST// ./getoptex -im foo bar baz >getoptex.out
77: //TEST// mkspspdf getoptex.ps getoptex.c* getoptex.out*
78:
```

[illegible]

```
1: ignore_case = true
2: filenames_only = false
3: number_lines = true
4: operand[2] = "foo"
5: operand[3] = "bar"
6: operand[4] = "baz"
```