

## 5. io.c example

```
$ cat -n ostep/code/intro/io.c
 1  #include <stdio.h>
 2  #include <unistd.h>
 3  #include <assert.h>
 4  #include <fcntl.h>
 5  #include <sys/stat.h>
 6  #include <sys/types.h>
 7  #include <string.h>
 8
 9  int main(int argc, char *argv[]) {
10      int fd = open("/tmp/file", O_WRONLY | O_CREAT | O_TRUNC, S_IRUSR | S_IWUSR);
11      assert(fd >= 0);
12      char buffer[20];
13      sprintf(buffer, "hello world\n");
14      int rc = write(fd, buffer, strlen(buffer));
15      assert(rc == (strlen(buffer)));
16      fsync(fd);
17      close(fd);
18      return 0;
19  }
$ ./io
$ cat /tmp/file
hello world
$ ls -ld /tmp
drwxrwxrwt 19 root root 12288 Jun  5 11:43 /tmp
$ ls -l /tmp/file
-rw----- 1 perry perry 12 Jun  5 11:43 /tmp/file
$ ./io
$ chmod 400 /tmp/file
$ ls -l /tmp/file
-r----- 1 perry perry 12 Jun  5 11:44 /tmp/file
$ ./io
io: io.c:11: main: Assertion `fd >= 0' failed.
Abort (core dumped)
$
```

--> perror() instead of assert()