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/* The following code example is taken from the book
 * "The C++ Standard Library – A Tutorial and Reference, 2nd Edition"
 * by Nicolai M. Josuttis, Addison-Wesley, 2012
 *
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 * warranty, and with no claim as to its suitability for any purpose.
 */
#include <iostream>
#include <streambuf>
#include <cstdio>

// for write():
#ifdef _MSC_VER
#include <io.h>
#else
#include <unistd.h>
#endif

class fdoutbuf : public std::streambuf {
protected:
    int fd;    // file descriptor
public:
    // constructor
    fdoutbuf (int _fd) : fd(_fd) {
    }
protected:
    // write one character
    virtual int_type overflow (int_type c) {
        if (c != EOF) {
            char z = c;
            if (write (fd, &z, 1) != 1) {
                return EOF;
            }
        }
        return c;
    }
    // write multiple characters
    virtual std::streamsize xsputn (const char* s,
                                    std::streamsize num) {
        return write(fd, s, num);
    }
};

class fdostream : public std::ostream {
protected:
    fdoutbuf buf;
public:
    fdostream (int fd) : std::ostream(0), buf(fd) {
        rdbuf(&buf);
    }
};

```