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/* The following code example is taken from the book
 * "The C++ Standard Library – A Tutorial and Reference"
 * by Nicolai M. Josuttis, Addison-Wesley, 1999
 *
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 */
#include <iostream>
#include <cstdlib>

namespace MyLib {
    double readAndProcessSum (std::istream&);
}

int main()
{
    using namespace std;
    double sum;

    try {
        sum = MyLib::readAndProcessSum(cin);
    }
    catch (const ios::failure& error) {
        cerr << "I/O exception: " << error.what() << endl;
        return EXIT_FAILURE;
    }
    catch (const exception& error) {
        cerr << "standard exception: " << error.what() << endl;
        return EXIT_FAILURE;
    }
    catch (...) {
        cerr << "unknown exception" << endl;
        return EXIT_FAILURE;
    }

    // print sum
    cout << "sum: " << sum << endl;
}

#include <istream>

namespace MyLib {
    double readAndProcessSum (std::istream& strm)
    {
        using std::ios;
        double value, sum;

        // save current state of exception flags
        ios::iostate oldExceptions = strm.exceptions();

        /* let failbit and badbit throw exceptions
         * – NOTE: failbit is also set at end-of-file
         */
    }
}

```

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    strm.exceptions (ios::failbit | ios::badbit);

    try {
        /* while stream is OK
         * - read value and add it to sum
         */
        sum = 0;
        while (strm >> value) {
            sum += value;
        }
    }
    catch (...) {
        /* if exception not caused by end-of-file
         * - restore old state of exception flags
         * - rethrow exception
         */
        if (!strm.eof()) {
            strm.exceptions(oldExceptions); // restore exception flags
            throw;                          // rethrow
        }
    }

    // restore old state of exception flags
    strm.exceptions (oldExceptions);

    // return sum
    return sum;
}
}

```