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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 <string>
#include <iostream>
#include <codecvt>
using namespace std;

int main()
{
    // create input stream reading UTF-8 sequences:
    wbuffer_convert<codecvt_utf8<wchar_t>> utf8inBuf(cin.rdbuf());
    wistream utf8in(&utf8inBuf);

    // create output stream writing UTF-16 sequences:
    wbuffer_convert<codecvt_utf16<wchar_t,
                                0xFFFF,
                                generate_header>>
                    utf16outBuf(cout.rdbuf());
    wostream utf16out(&utf16outBuf);

    // write each character read:
    wchar_t c;
    while (utf8in.get(c)) {
        utf16out.put(c);
    }
}

```