```
/* 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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 */
#include <iostream>
#include <string>
using namespace std;

int main (int argc, char* argv[])
{
    string filename, basename, extname, tmpname;
    const string suffix("tmp");

    // for each command-line argument (which is an ordinary C-string)
    for (int i=1; i<argc; ++i) {
        // process argument as filename
        filename = argv[i];

        // search period in filename
        string::size_type idx = filename.find('.');
        if (idx == string::npos) {
            // filename does not contain any period
            tmpname = filename + '.' + suffix;
        }
        else {
            // split filename into base name and extension
            // - base name contains all characters before the period
            // - extension contains all characters after the period
            basename = filename.substr(0, idx);
            extname = filename.substr(idx+1);
            if (extname.empty()) {
                // contains period but no extension: append tmp
                tmpname = filename;
                tmpname += suffix;
            }
            else if (extname == suffix) {
                // replace extension tmp with xxx
                tmpname = filename;
                tmpname.replace (idx+1, extname.size(), "xxx");
            }
            else {
                // replace any extension with tmp
                tmpname = filename;
                tmpname.replace (idx+1, string::npos, suffix);
            }
        }

        // print filename and temporary name
        cout << filename << " => " << tmpname << endl;
    }
```

}