

G++ 2.91.57, cygnus\cygwin-b20\include\g++\std\traits.h 完整列表

```
// Character traits template for the -*- C++ -*- string classes.
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// Written by Jason Merrill based upon the specification by Takanori Adachi
// in ANSI X3J16/94-0013R2.

#ifndef __STRING_CHAR_TRAITS__
#define __STRING_CHAR_TRAITS__

#ifdef __GNUG__
// For string_char_traits <char>
#pragma interface "std/traits.h"
#endif

#include <cstddef>

extern "C++" {
template <class charT>
struct string_char_traits {
    typedef charT char_type; // for users to acquire the basic character type

    // constraints

    static void assign (char_type& c1, const char_type& c2)
        { c1 = c2; }
    static bool eq (const char_type& c1, const char_type& c2)
        { return (c1 == c2); }
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static bool ne (const char_type& c1, const char_type& c2)
{ return !(c1 == c2); }
static bool lt (const char_type& c1, const char_type& c2)
{ return (c1 < c2); }
static char_type eos () { return char_type(); } // the null character
static bool is_del(char_type a) { return 0; }
// characteristic function for delimiters of charT

// speed-up functions

static int compare (const char_type* s1, const char_type* s2, size_t n)
{
    size_t i;
    for (i = 0; i < n; ++i)
        if (ne (s1[i], s2[i]))
            return lt (s1[i], s2[i]) ? -1 : 1;

    return 0;
}

static size_t length (const char_type* s)
{
    size_t l = 0;
    while (ne (*s++, eos ()))
        ++l;
    return l;
}

static char_type* copy (char_type* s1, const char_type* s2, size_t n)
{
    for (; n--;)
        assign (s1[n], s2[n]);
    return s1;
}

static char_type* move (char_type* s1, const char_type* s2, size_t n)
{
    char_type a[n];
    size_t i;
    for (i = 0; i < n; ++i)
        assign (a[i], s2[i]);
    for (i = 0; i < n; ++i)
        assign (s1[i], a[i]);
    return s1;
}

static char_type* set (char_type* s1, const char_type& c, size_t n)
{
    for (; n--;)

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        assign (s1[n], c);
    return s1;
}
};

class istream;
class ostream;
#include <cctype>
#include <cstring>

struct string_char_traits <char> {
    typedef char char_type;

    static void assign (char_type& c1, const char_type& c2)
    { c1 = c2; }
    static bool eq (const char_type & c1, const char_type& c2)
    { return (c1 == c2); }
    static bool ne (const char_type& c1, const char_type& c2)
    { return (c1 != c2); }
    static bool lt (const char_type& c1, const char_type& c2)
    { return (c1 < c2); }
    static char_type eos () { return 0; }
    static bool is_del(char_type a) { return isspace(a); }

    static int compare (const char_type* s1, const char_type* s2, size_t n)
    { return memcmp (s1, s2, n); }
    static size_t length (const char_type* s)
    { return strlen (s); }
    static char_type* copy (char_type* s1, const char_type* s2, size_t n)
    { return (char_type*) memcpy (s1, s2, n); }
    static char_type* move (char_type* s1, const char_type* s2, size_t n)
    { return (char_type*) memmove (s1, s2, n); }
    static char_type* set (char_type* s1, const char_type& c, size_t n)
    { return (char_type*) memset (s1, c, n); }
};

#if 0
#include <cwctype>
struct string_char_traits <wchar_t> {
    typedef wchar_t char_type;

    static void assign (char_type& c1, const char_type& c2)
    { c1 = c2; }
    static bool eq (const char_type & c1, const char_type& c2)
    { return (c1 == c2); }
    static bool ne (const char_type& c1, const char_type& c2)
    { return (c1 != c2); }
    static bool lt (const char_type& c1, const char_type& c2)
    { return (c1 < c2); }
};

```

```
static char_type eos () { return 0; }
static bool is_del(char_type a) { return iswspace(a); }

static int compare (const char_type* s1, const char_type* s2, size_t n)
{ return wmemcmp (s1, s2, n); }
static size_t length (const char_type* s)
{ return wcslen (s); }
static char_type* copy (char_type* s1, const char_type* s2, size_t n)
{ return wmemcpy (s1, s2, n); }
static char_type* set (char_type* s1, const char_type& c, size_t n)
{ return wmemset (s1, c, n); }
};
#endif
} // extern "C++"
#endif
```