

current locale; the 12 strings listed above are legal in all locales. If `wctype` is passed a string that's not supported in the current locale, it returns zero.

*iswctype* A call of the `iswctype` function requires two parameters: `wc` (a wide character) and `desc` (a value returned by `wctype`). `iswctype` returns a nonzero value if `wc` belongs to the class of characters corresponding to `desc`. For example, the call

```
iswctype(wc, wctype("alnum"))
```

is equivalent to

```
iswalnum(wc)
```

`wctype` and `iswctype` are most useful when the argument to `wctype` is a string other than the standard ones listed above.

## Wide-Character Case-Mapping Functions

```
wint_t tolower(wint_t wc);
wint_t toupper(wint_t wc);
```

*tolower* *toupper* The `tolower` and `toupper` functions are the wide-character counterparts of `tolower` and `toupper`. For example, `tolower` returns the lower-case version of its argument, if the argument is an upper-case letter; otherwise, it returns the argument unchanged. As usual, there may be quirks when dealing with wide characters. For example, more than one lower-case version of a letter may exist in the current locale, in which case `tolower` is allowed to return any one of them.

## Extensible Wide-Character Case-Mapping Functions

```
wint_t towctrans(wint_t wc, wctrans_t desc);
wctrans_t wctrans(const char *property);
```

The `wctrans` and `towctrans` functions are used together to support generalized wide-character mapping.

*wctrans* The `wctrans` function is passed a string describing a character mapping; it returns a `wctrans_t` value that represents the mapping. For example, the call

```
wctrans("tolower")
```

returns a `wctrans_t` value representing the mapping of upper-case letters to lower case. The C99 standard requires that the strings `"tolower"` and `"toupper"` be allowed as arguments to `wctrans`. Additional strings may be provided by an implementation. Which strings are legal arguments to `wctrans` at a given time depends on the `LC_CTYPE` category of the current locale; `"tolower"` and `"toupper"` are legal in all locales. If `wctrans` is passed a string that's not supported in the current locale, it returns zero.