

NAME

bkgrnd, wbkgrnd, bkgrndset, wbkgrndset, getbkgrnd, wgetbkgrnd – manipulate background of a *curses* window of wide characters

SYNOPSIS

```
#include <curses.h>

int bkgrnd(const cchar_t *wch);
int wbkgrnd(WINDOW *win, const cchar_t *wch);

void bkgrndset(const cchar_t *wch);
void wbkgrndset(WINDOW *win, const cchar_t *wch);

int getbkgrnd(cchar_t *wch);
int wgetbkgrnd(WINDOW *win, cchar_t *wch);
```

DESCRIPTION

Every *curses* window has a *background character* property: in the library's wide configuration, it is a *curses* complex character (*cchar_t*) that combines a set of attributes (and, if colors are enabled, a color pair identifier) with a character code. When erasing (parts of) a window, *curses* replaces the erased cells with the background character.

curses also uses the background character when writing characters to a populated window.

- The attribute part of the background character combines with all non-blank character cells in the window, as populated by the **wadd_wch(3X)** and **wins_wch(3X)** families of functions (and those that call them).
- Both the character code and attributes of the background character combine with blank character cells in the window.

The background character's set of attributes becomes a property of the character cell and move with it through any scrolling and insert/delete line/character operations. To the extent possible on the terminal type, *curses* displays the attributes of the background character as the graphic rendition of a character cell on the display.

bkgrnd, wbkgrnd

bkgrnd and **wbkgrnd** set the background property of **stdscr** or the specified window and then apply this setting to every character cell in that window.

- The rendition of every character in the window changes to the new background rendition.
- Wherever the former background character appears, it changes to the new background character.

ncurses updates the rendition of each character cell by comparing the character, non-color attributes, and color pair selection. The library applies to following procedure to each cell in the window, whether or not it is blank.

- *ncurses* first compares the cell's character to the previously specified background character; if they match, *ncurses* writes the new background character to the cell.
- *ncurses* then checks whether the cell uses color; that is, its color pair value is nonzero. If not, it simply replaces the attributes and color pair in the cell with those from the new background character.
- If the cell uses color, and its background color matches that of the current window background, *ncurses* removes attributes that may have come from the current background and adds those from the new background. It finishes by setting the cell's background to use the new window background color.
- If the cell uses color, and its background color does not match that of the current window background, *ncurses* updates only the non-color attributes, first removing those that may have come from the current background, and then adding attributes from the new background.

If the new background's character is non-spacing, *ncurses* reuses the old background character, except for one special case: *ncurses* treats a background character code of zero (0) as a space.

If the terminal does not support color, or if color has not been initialized with **start_color(3X)**, *ncurses* ignores the new background character's color pair selection.

bkgrndset, wbkgrndset

bkgrndset and **wbkgrndset** manipulate the background of the applicable window, without updating the character cells as **bkgrnd** and **wbkgrnd** do; only future writes reflect the updated background.

getbkgrnd, wgetbkgrnd

getbkgrnd and **wgetbkgrnd** respectively obtain **stdscr**'s or the given window's background character, attributes, and color pair, and store it in their *wch* argument.

RETURN VALUE

bkgrndset and **wbkgrndset** do not return a value.

Functions returning an *int* return **ERR** upon failure and **OK** upon success. In *ncurses*, failure occurs if

- the *curses* screen has not been initialized,
- *win* is *NULL*, or
- *wch* is *NULL*.

NOTES

bkgrnd, **bkgrndset**, and **getbkgrnd** may be implemented as macros.

Unlike their counterparts in the non-wide-character configuration of *ncurses*, **getbkgrnd** and **wgetbkgrnd** store the background character in a modifiable *cchar_t* parameter, rather than supplying it as the return value.

PORTABILITY

X/Open Curses Issue 4 describes these functions. It specifies no error conditions for them.

X/Open Curses does not provide details of how the rendition is updated. *ncurses* follows the approach used in SVr4 *curses*'s non-wide functions for manipulating the window background.

HISTORY

X/Open Curses Issue 4 (1995) initially specified these functions.

SEE ALSO

curs_bkgd(3X) describes the corresponding functions in the non-wide-character configuration of *ncurses*.

curses(3X), **curs_add_wch(3X)**, **curs_attr(3X)**