

C Library - <locale.h>

The **locale.h** header defines the location specific settings, such as date formats and currency symbols. You will find several macros defined along with an important structure **struct lconv** and two important functions listed below.



Library Macros

Following are the macros defined in the header and these macros will be used in two functions listed below –

Sr.No.	Macro & Description
1	LC_ALL Sets everything.
2	LC_COLLATE Affects strcoll and strxfrm functions.
3	LC_CTYPE Affects all character functions.
4	LC_MONETARY Affects the monetary information provided by localeconv function.
5	LC_NUMERIC Affects decimal-point formatting and the information provided by localeconv function.
6	LC_TIME Affects the strftime function.

Library Functions

Following are the functions defined in the header locale.h –

Sr.No.	Function & Description
1	<code>char *setlocale(int category, const char *locale)</code>  Sets or reads location dependent information.
2	<code>struct lconv *localeconv(void)</code>  Sets or reads location dependent information.

Library Structure

```
typedef struct {  
    char *decimal_point;  
    char *thousands_sep;  
    char *grouping;  
    char *int_curr_symbol;  
    char *currency_symbol;  
    char *mon_decimal_point;  
    char *mon_thousands_sep;  
    char *mon_grouping;  
    char *positive_sign;  
    char *negative_sign;  
    char int_frac_digits;  
    char frac_digits;  
    char p_cs_precedes;  
    char p_sep_by_space;  
    char n_cs_precedes;  
    char n_sep_by_space;  
    char p_sign_posn;  
    char n_sign_posn;  
} lconv
```

Following is the description of each of the fields –

Sr.No.	Field & Description
1	decimal_point Decimal point character used for non-monetary values.
2	thousands_sep Thousands place separator character used for non-monetary values.
3	grouping A string that indicates the size of each group of digits in non-monetary quantities. Each character represents an integer value, which designates the number of digits in the current group. A value of 0 means that the previous value is to be used for the rest of the groups.
4	int_curr_symbol It is a string of the international currency symbols used. The first three characters are those specified by ISO 4217:1987 and the fourth is the character, which separates the currency symbol from the monetary quantity.
5	currency_symbol The local symbol used for currency.
6	mon_decimal_point The decimal point character used for monetary values.
7	mon_thousands_sep The thousands place grouping character used for monetary values.
8	mon_grouping A string whose elements defines the size of the grouping of digits in monetary values. Each character represents an integer value which designates the number of digits in the current group. A value of 0 means that the previous value is to be used for the rest of the groups.
9	positive_sign The character used for positive monetary values.
10	negative_sign

	The character used for negative monetary values.
11	int_frac_digits Number of digits to show after the decimal point in international monetary values.
12	frac_digits Number of digits to show after the decimal point in monetary values.
13	p_cs_precedes If equals to 1, then the currency_symbol appears before a positive monetary value. If equals to 0, then the currency_symbol appears after a positive monetary value.
14	p_sep_by_space If equals to 1, then the currency_symbol is separated by a space from a positive monetary value. If equals to 0, then there is no space between the currency_symbol and a positive monetary value.
15	n_cs_precedes If equals to 1, then the currency_symbol precedes a negative monetary value. If equals to 0, then the currency_symbol succeeds a negative monetary value.
16	n_sep_by_space If equals to 1, then the currency_symbol is separated by a space from a negative monetary value. If equals to 0, then there is no space between the currency_symbol and a negative monetary value.
17	p_sign_posn Represents the position of the positive_sign in a positive monetary value.
18	n_sign_posn Represents the position of the negative_sign in a negative monetary value.

The following values are used for **p_sign_posn** and **n_sign_posn** –

Value	Description
0	Parentheses encapsulates the value and the currency_symbol.
1	The sign precedes the value and currency_symbol.
2	The sign succeeds the value and currency_symbol.
3	The sign immediately precedes the value and currency_symbol.
4	The sign immediately succeeds the value and currency_symbol.