Conversion from char array to intmax\_t in C. -- <inttype.h>

[intro]

Recall that there is a library implement conversion from char array to int in C.

Such as atol(const char \* cp) which converts the char pointer named \*cp to a long int number.

And strtol(const char \*cp, char \*\*endptr, int base) which converts the char pointer named \*cp to a long int number based on the base parameter.

There is also a library called <inttype.h> implement conversion from char array to intmax\_t in C.

Such as strtoimax(const char \* cp, char \*\*endptr, int base) which converts char pointer named \*cp to a intmax\_t number based on the base parameter.

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| --- | --- | --- | --- |
| Source type | Destination type | Function | Defined in which library |
| const char \* | long int | strtol | <cstdlib> or <stdlib.h> |
| const char \* | intmax\_t | strtoimax | <cinttypes> or <inttypes.h> |
| const char \* | uintmax\_t | strtoumax | <cinttypes> or <inttypes.h> |
| const wchar\_t \* | intmax\_t | wcstoimax | <cinttypes> or <inttypes.h> |
| const wchar\_t \* | uintmax\_t | wcstoumax | <cinttypes> or <inttypes.h> |

[namespace]

NONE

[library]

<inttypes.h> for older version.

<cinttypes> for newer version.

[code]

#include <stdio.h>

#include <stdint.h>

#include <inttypes.h>

int main ()

{

char buffer[80];

intmax\_t foo,bar;

printf ("Please, enter a number: ");

fgets (buffer,80,stdin);

foo = strtoimax (buffer,NULL,10);

printf ("Thanks for entering %" PRIdMAX ".\n", foo);

printf ("Please, enter another number: ");

scanf ("%" SCNdMAX,&bar);

printf ("%" PRIdMAX " by %" PRIdMAX " is %" PRIdMAX, foo, bar, foo\*bar);

return 0;

}

[input]

20 10

[result]

Please, enter a number: Thanks for entering 20.

Please, enter another number: 20 by 10 is 200

[ref]

<https://cplusplus.com/reference/cinttypes/>

<https://www.geeksforgeeks.org/strtoimax-function-in-c/>