Archived:Converting numbers to C strings

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Overview

`sprintf()` and `snprintf()` functions can be used in Open C to convert numeric values into formatted numeral strings. Both of these functions return the number of characters printed.

- `sprintf()` takes three parameters. The first holds the converted number, the second parameter is a string containing a format specifier, and the third is the number the user wants to convert into a string.
- `snprintf()` is a safer version of `sprintf()` because there is also a fourth size parameter. `snprintf()` writes at most the given size-1 of the characters printed into the output string.

Note: In order to use this code, you need to install Open C plug-in.

This snippet can be self-signed.

MMP file

The following libraries are required:

```
LIBRARY libc.lib
```

Source file

```
#include <stdio.h> // sprintf(), snprintf()

#define MAX_STR_LEN 8

int main(void)
{
  int printed = 0;
  char numeral_string[MAX_STR_LEN];

  /* - sprintf() - */
  printed = sprintf(numeral_string, "%d", 123);
  printf("123 in decimal is %s\n", numeral_string);
  printf("printed characters: %d\n", printed);

  printed = sprintf(numeral_string, "%x", 123);
  printf("123 in hexadecimal is %s\n", numeral_string);
  printf("printed characters: %d\n", printed);

  /* - snprintf() - */
  printed = snprintf(numeral_string, 7, "%o", 123);
  printf("123 in octal is %s\n", numeral_string);
  printf("printed characters: %d\n", printed);

  /* only first three characters + trailing \0 is written to the buffer */
  printed = snprintf(numeral_string, 4, "%d", 1234567890);
  printf("123|4567890 in decimal is %s\n", numeral_string);
  printf("printed characters: %d\n", printed);

  return 0;
}
```

Postconditions

Four different number to string conversions are executed and displayed to the standard output.

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