printf

Agenda

1. Prerequisites
2. Objectives of printf project

Prerequisites

- ✓ Arrays
- ✓ Structures
- ✓ Pointers
- ✓ Arrays of structures
- ✓ Function pointers
- ✓ Argc & Argv
- ✓ Variadic functions
- ✓ Dynamic memory allocation

Objective

- The essence of this project is for you to put into practice **all** the concepts that you have been introduced to so far and see how they all work together in a real world use case.
- Develop a custom `_printf()` function that emulates the functionality of the standard library function `printf()`.
- Deepen your understanding of the C programming language.

```
INTF(1)                                   User Commands                                   PRINTF(1)

ME
    printf - format and print data

NOPSIS
    printf FORMAT [ARGUMENT]...
    printf OPTION

SCRIPTION
    Print ARGUMENT(s) according to FORMAT, or execute according to OPTION:

    --help display this help and exit

    --version
           output version information and exit

    FORMAT controls the output as in C printf.  Interpreted sequences are:

    \"     double quote

    \\     backslash

    \a     alert (BEL)

    \b     backspace

    \c     produce no further output

    \e     escape

    \f     form feed

    \n     new line

    \r     carriage return

    \t     horizontal tab

    \v     vertical tab

    \NNN   byte with octal value NNN (1 to 3 digits)

    \xHH   byte with hexadecimal value HH (1 to 2 digits)

    \uHHHH Unicode (ISO/IEC 10646) character with hex value HHHH (4 digits)

    \UHHHHHHHH
           Unicode character with hex value HHHHHHHH (8 digits)

    %%     a single %

    %b     ARGUMENT as a string with '\' escapes interpreted, except that octal escapes are of the form \0 or \0NNN

    %q     ARGUMENT is printed in a format that can be reused as shell input, escaping non-printable characters with the proposed POSIX $'' syntax.
anual page printf(1) line 1 (press h for help or q to quit)
```

Resources

1. Hashnode article guide
2. Concept page
3. Geeks
4. Guide
5. Comprehensive repo

See you at the next session!