



# C Bootcamp

Day 07

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*Summary: This document is the subject for Day07 of the C Bootcamp @ WeThinkCode\_.*

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# Chapter I

## Instructions

- Only this page will serve as reference: do not trust rumors.
- Watch out! This document could potentially change up to an hour before submission.
- Make sure you have the appropriate permissions on your files and directories.
- You have to follow the submission procedures for every exercise.
- Your exercises will be checked and graded by your fellow classmates.
- On top of that, your exercises will be checked and graded by a program called Moulinette.
- Moulinette is very meticulous and strict in its evaluation of your work. It is entirely automated and there is no way to negotiate with it. So if you want to avoid bad surprises, be as thorough as possible.
- Moulinette is not very open-minded. It won't try and understand your code if it doesn't respect the Norm. Moulinette relies on a program called **Norminator** to check if your files respect the norm. TL;DR: it would be idiotic to submit a piece of work that doesn't pass **Norminator**'s check.
- These exercises are carefully laid out by order of difficulty - from easiest to hardest. We **will not** take into account a successfully completed harder exercise if a previous easier one is not perfectly functional.
- Using a forbidden function is considered cheating. Cheaters get -42, and this grade is non-negotiable.
- If `ft_putchar()` is an authorized function, we will compile your code with our `ft_putchar.c`.
- You'll only have to submit a `main()` function if we ask for a program.

- Moulinette compiles with these flags: `-Wall -Wextra -Werror`, and uses `gcc`.
- If your program doesn't compile, you'll get 0.
- You cannot leave any additional file in your directory than those specified in the subject.
- Got a question? Ask the neighbor on your right. Otherwise, try the neighbor on your left.
- Your reference guide is called `Google / man / the Internet / ....`
- Try checking out the "C Bootcamp" part of the forum on the intranet.
- Examine the examples thoroughly. They could very well call for details that are not explicitly mentioned in the subject...
- By Odin, by Thor ! Use your brain !!!



Norminator must be launched with the `-R CheckForbiddenSourceHeader` flag. Moulinette will use it too.

# Chapter II


## Foreword

TO BE REPLACED:

- Toutes sortes de morts-vivants ;
- Des araignées géantes ;
- Des orques ;
- Des gobelins ;
- Des trolls dans les souterrains ;
- Des sorciers ;
- Des guerriers maudits ;
- Des rats mutants ;
- Une bouteille d'huile ;
- Du papier toilette ;
- Deux éponges ;
- Des raviolis.

# Chapter III

## Exercise 00 : ft\_strdup


	Exercise 00
ft_strdup	
Turn-in directory : <i>ex00/</i>	
Files to turn in : <b>ft_strdup.c</b>	
Allowed functions : <b>malloc</b>	
Notes : <b>n/a</b>	

- Reproduce the behavior of the function **strdup** (man strdup).
- Here's how it should be prototyped :

```
char *ft_strdup(char *src);
```

# Chapter IV

## Exercise 01 : ft\_range

	Exercise 01
ft_range	
Turn-in directory : <i>ex01/</i>	
Files to turn in : <b>ft_range.c</b>	
Allowed functions : <b>malloc</b>	
Notes : <b>n/a</b>	


- Create a function **ft\_range** which returns a table of **ints**. This **int** table should contain all values between **min** and **max**.
- **Min** included - **max** excluded.
- Here's how it should be prototyped :

```
int *ft_range(int min, int max);
```

- If **min** value is greater or equal to **max**'s value, a null pointer should be returned.

# Chapter V

## Exercise 02 : ft\_ultimate\_range

	Exercise 02
ft_ultimate_range	
Turn-in directory : <i>ex02/</i>	
Files to turn in : <code>ft_ultimate_range.c</code>	
Allowed functions : <code>malloc</code>	
Notes : n/a	

- Create a function `ft_ultimate_range` which allocates and assigns a table of `ints`. This `int` table should contain all values between `min` and `max`.
- `Min` included - `max` excluded.
- Here's how it should be prototyped :


```
int ft_ultimate_range(int **range, int min, int max);
```

- If the value of `min` is greater or equal to `max`'s value, `range` will point on `NULL`.
- The size of `range` should be returned (or 0 on error).



# Chapter VI

## Exercise 03 : ft\_concat\_params


	Exercise 03
ft_concat_params	
Turn-in directory : <i>ex03/</i>	
Files to turn in : <code>ft_concat_params.c</code>	
Allowed functions : <code>malloc</code>	
Notes : <code>n/a</code>	

- Create a function that transforms arguments given as command-line into a single string of characters. Those arguments should be separated by a `"\n"`.
- Here's how it should be prototyped :

```
char *ft_concat_params(int argc, char **argv);
```

# Chapter VII

## Exercise 04 : ft\_split\_whitespaces


	Exercise 04
ft_split_whitespaces	
Turn-in directory : <i>ex04/</i>	
Files to turn in : <b>ft_split_whitespaces.c</b>	
Allowed functions : <b>malloc</b>	
Notes : <b>n/a</b>	

- Create a function that splits a string of characters into words.
- Separators are spaces, tabs and line breaks.
- This function returns a table where each box contains a character-string's address represented by a word. The last element of this table should be equal to 0 to emphasise the end of the table.
- There can't be any empty strings in your table. Draw the necessary conclusions.
- The given string can't be modified.
- Here's how it should be prototyped :

```
char **ft_split_whitespaces(char *str);
```

# Chapter VIII

## Exercise 05 : ft\_print\_words\_tables


	Exercise 05
	ft_print_words_tables
	Turn-in directory : <i>ex05/</i>
	Files to turn in : <b>ft_print_words_tables.c</b>
	Allowed functions : <b>ft_putchar</b>
	Notes : <b>n/a</b>

- Create a function that displays the content of the table you created in the last exercise's function.
- One word per line.
- Each word will be followed by a "\n", including the last one.
- This exercise will be compiled with your `ft_split_whitespace.c`
- Watch out not to have `multiple define`.
- Here's how it should be prototyped :

```
void ft_print_words_tables(char **tab);
```

# Chapter IX

## Exercise 06 : ft\_convert\_base


	Exercise 06
ft_convert_base	
Turn-in directory : <i>ex06/</i>	
Files to turn in : <b>ft_convert_base.c</b>	
Allowed functions : <b>malloc, free</b>	
Notes : <b>n/a</b>	

- Create a function that returns the result of the conversion of the string **nbr** from a base **base\_from** to a base **base\_to**. The string must have enough allocated memory. The number represented by **nbr** must fit inside an **int**.
- Here's how it should be prototyped :

```
char *ft_convert_base(char *nbr, char *base_from, char *base_to);
```

# Chapter X

## Exercise 07 : ft\_split

	Exercise 07
ft_split	
Turn-in directory : <i>ex07/</i>	
Files to turn in : <b>ft_split.c</b>	
Allowed functions : <b>malloc</b>	
Notes : <b>n/a</b>	

- Create a function that splits a string of characters depending on another string of characters.
- You'll have to use each character from the string **charset** as a separator.
- The function returns a table where each box contains the address of a string wrapped between two separators. The last element of that table should equal to 0 to indicate the end of the table.
- There cannot be any empty strings in your table. Draw your conclusions accordingly.
- The string given as argument won't be modifiable.
- Here's how it should be prototyped :

```
char **ft_split(char *str, char *charset);
```