

C Piscine C 04

Summary: this document is the subject for the unit C 04 of the C Piscine @ 42.

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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 before submission.
- Make sure you have the appropriate permissions on your files and directories.
- You have to follow the submission procedures for all your exercises.
- Your exercises will be chea G/i4s2ti1o7(elraded)-326(wi326(as)-327(on)-326(y)27feto)-326(folltia

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- Your reference guide is called Google / man / the Internet /  $\dots$
- Check out the "C Piscine" part of the forum on the intranet, or the slack Piscine.
- 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!!!



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

#### Chapter II

#### Foreword

Here are the lyrics for Ci ty Hunter's theme song "Moonlight Shadow":

The last time ever she saw him
Carried away by a moonlight shadow
He passed on worried and warning
Carried away by a moonlight shadow.
Lost in a riddle that Saturday night
Far away on the other side.
He was caught in the middle of a desperate fight
And she couldn't find how to push through

The trees that whisper in the evening
Carried away by a moonlight shadow
Sing a song of sorrow and grieving
Carried away by a moonlight shadow
All she saw was a silhouette of a gun
Far away on the other side.
He was shot six times by a man on the run
And she couldn't find how to push through

[Chorus]
I stay, I pray
See you in Heaven far away...
I stay, I pray
See you in Heaven one day.

Four A.M. in the morning
Carried away by a moonlight shadow
I watched your vision forming
Carried away by a moonlight shadow
A star was glowing in the silvery night
Far away on the other side
Will you come to talk to me this night
But she couldn't find how to push through

[Chorus]

C Piscine

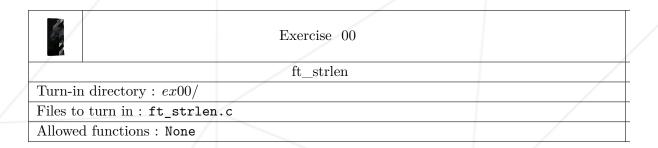
C 04

Far away on the other side.
Caught in the middle of a hundred and five
The night was heavy and the air was alive
But she couldn't find how to push through
Carried away by a moonlight shadow
Carried away by a moonlight shadow
Far away on the other side.

Unfortunately, this topic has nothing to do with Ci ty Hunter.

# Chapter III

Exercise 00 : ft\_strlen

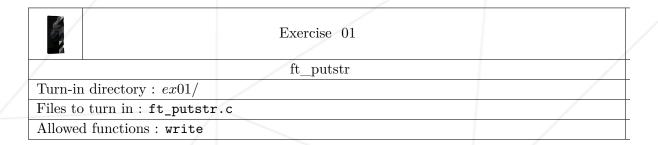


- Create a function that counts and returns the number of characters in a string.
- Here's how it should be prototyped :

int ft\_strlen(char \*str);

# Chapter IV

Exercise 01: ft\_putstr



- Create a function that displays a string of characters on the standard output.
- Here's how it should be prototyped :

void ft\_putstr(char \*str);

## Chapter V

# Exercise 02: ft\_putnbr

	Exercise 02	
/	${ m ft\_putnbr}$	
Turn-in directory : $ex0$		
Files to turn in: ft_putnbr.c		
Allowed functions : wri		

- Create a function that displays the number entered as a parameter. The function has to be able to display all possible values within an int type variable.
- Here's how it should be prototyped :

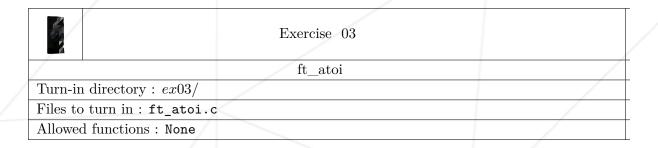
#### void ft\_putnbr(int nb);

For example:

ft\_putnbr(42) displays "42".

### Chapter VI

Exercise 03: ft\_atoi



- Write a function that converts the initial portion of the string pointed by str to its int representation
- The string can start with an arbitray amount of white space (as determined by isspace(3))
- The string can be followed by an arbitrary amount of + and signs, sign will change the sign of the int returned based on the number of is odd or even.
- Finally the string can be followed by any numbers of the base 10.
- Your function should read the string until the string stop following the rules and return the number found until now.
- You should not take care of overflow or underflow. result can be undefined in that case.
- Here's an example of a program that prints the atoi return value:

```
$>./a.out " ---+--+1234ab567"
-1234
```

• Here's how it should be prototyped :

int ft\_atoi(Char \*str);

#### Chapter VII

#### Exercise 04: ft\_putnbr\_base

	Exercise 04	
/	ft_putnbr_base	
Turn-in directory : $ex04/$		
Files to turn in : ft_putnb:		
Allowed functions: write		

- Create a function that displays a number in a base system in the terminal.
- This number is given in the shape of an int, and the radix in the shape of a string of characters.
- The base-system contains all useable symbols to display that number :

0123456789 is the commonly used base system to represent decimal numbers 01 is a binary base system;

0123456789ABCDEF an hexadecimal base system;

poneyvif is an octal base system.

- The function must handle negative numbers.
- If there's an invalid argument, nothing should be displayed. Examples of invalid arguments :

base is empty or size of 1;

base contains the same character twice;

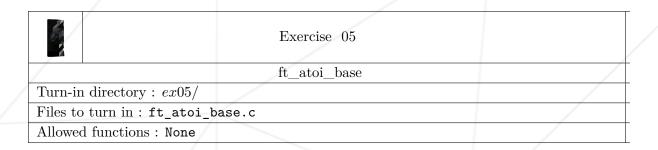
base contains + or -;

Here's how it should be prototyped :



### Chapter VIII

Exercise 05: ft\_atoi\_base



- Write a function that converts the initial portion of the string pointed by str to int representation.
- str is in a specific base given as a second parameter.
- excepted the base rule, the function should work exactly like ft\_atoi.
- If there's an invalid argument, the function should return 0. Examples of invalid arguments :

base is empty or size of 1;

base contains the same character twice;

base contains + or - or whitespaces;

• Here's how it should be prototyped :

int ft\_atoi\_base(Char \*str, Char \*base);