

VG101 — Introduction to Computer and Programming

Worksheet (chapter 5)

Manuel — UM-JI (Fall 2018)

Worksheet concept

- Simple exercises based on the slides
- Optional personal work
- No submission, no grading
- Only refer to websites in English

Ex. 1 — Slide questions

Ensure you can answer all the questions appearing in chapter 5.

Ex. 2 — Macros

Decode and run the following program.

A simple macro

```
1 #define fosho def
2 #define kthx return
3 #define wutz print
4 fosho double(x):
5 kthx x * 2
6 wutz double(6)
```

Hint: to run it use Python.

Ex. 3 — Basic C programming

1. Using chapter 2, write a C program which returns the density of a body given its circumference and both the distance and period of a body orbiting around it. Read the data from the keyboard.
2. What variable(s) can be defined using `#define`? Adjust your code accordingly.

Ex. 4 — Macro with low-level computation

The *Xor swap algorithm* is an algorithm that swaps two values of distinct variables without using any temporary variable.

1. Write a `#define SWAP(a,b)` macro to swap two integers *a* and *b*.
2. Write a short C function to demonstrate the previous macro.