

# VG101 — Introduction to Computer and Programming

## Worksheet (chapter 1)

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### Worksheet concept

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

#### Ex. 1 — *Napier's bones*

Read online about Napier's bones and write a clear algorithm that summarises this method.

#### Ex. 2 — *Reading*

Read online on the Linux OS and von Neumann architecture.

#### Ex. 3 — *Base conversions*

1. Convert from digit into binary and hexadecimal: 10, 245, 543211, 3095, 109.
2. Convert from binary into digit and hexadecimal: 111010101, 111, 10100111, 0101111110011110111100000001, 100111000011111.
3. Convert from hexadecimal into digit and binary: 14576ABC3333, AAABBB16487236, 17B, 9876EEB, ABCDE.
4. Write an algorithms to convert numbers from digit to binary.

#### Ex. 4 — *Programming languages*

Search online about the following languages and determine whether they are interpreted or compiled languages:

- |           |                                    |            |               |
|-----------|------------------------------------|------------|---------------|
| • Python; | • Markdown;                        | • Ada95;   | • Scala;      |
| • Perl;   | • L <sup>A</sup> T <sub>E</sub> X; | • O'Caml;  | • Javascript; |
| • PHP;    | • C#;                              | • Pascal;  | • Haskell;    |
| • Bash;   | • Lisp;                            | • Fortran; | • Erlang;     |
| • Java;   | • Assembly;                        | • Ruby;    |               |