

Possible solutions of exercises 1, 2 and 3 can be found in the scripts folder (in the GitHub repository, script `times_table.py`)

Write the pseudo-code for exercises 1, 2, 3, 4.

Possible solutions of exercises 4 and 5 can be found in the Parsing-Theory-I.solutions.md file from the python\_course repository on GitHub ([https://github.com/ELIXIR-IIB-training/python\\_course/tree/master/day2/3-Parsing](https://github.com/ELIXIR-IIB-training/python_course/tree/master/day2/3-Parsing)).

1) Write a function `times_table(n)` that takes a number `n` as input and returns its times-table in the form of a table in which the first column is the list of numbers between 1 and 10 ( $i = 1, \dots, 10$ ) and the second column is the product  $n*i$ )

2) Write a second function `print_table(t)` that takes a 2x2 table and prints it (nicely formatted as a table)

3) Use the function `print_table(t)` to print the `times_table(n)` of a number `n` inputted from the keyboard.

4) Read a multiple sequence FASTA file and write to a new file only the **records** from *Homo sapiens*.

5) Read a multiple sequence file in FASTA format and only write to a new file the records the sequences of which start with a methionine ('M') and contain at least two tryptophan residues ('W').

Hint:

**First** read a multiple sequence file in FASTA format and write to a new file only the records of the sequences starting with a methionine ('M')

**Then** read a multiple sequence file in FASTA format and write to a new file only the records of the sequences having at least two tryptophan residues ('W')

**Finally** merge the two steps

5) For the following exercises you don't need to write the pseudo-code:

a) Given the list `L = [1, 2, 3, 4, 5, 6, 7, 8, 9]`, which command would you use to extract the sub-list `[5,6,7]`?

b) write a script that reads an input file and prints only the first line of the file

c) What are the problems with the following code?

```
T = (1, 2, 3, 4)
T[3] = 5
print(T[4])
```

d) write a for loop printing the square of the loop variable

e) use the `print()` function to print

f) modify the function `print_table()` in order to write the table to a file

g) what would be the result of the following commands:

```
print('hello' + 'world')
print('hello' + 3)
```

h) Write the code performing the following action: print a number only if it is an odd number