Information, Computation, Communication

Learning Python

About the Course

Agenda

- Objectives
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- Exercise sessions
- Additional support sessions
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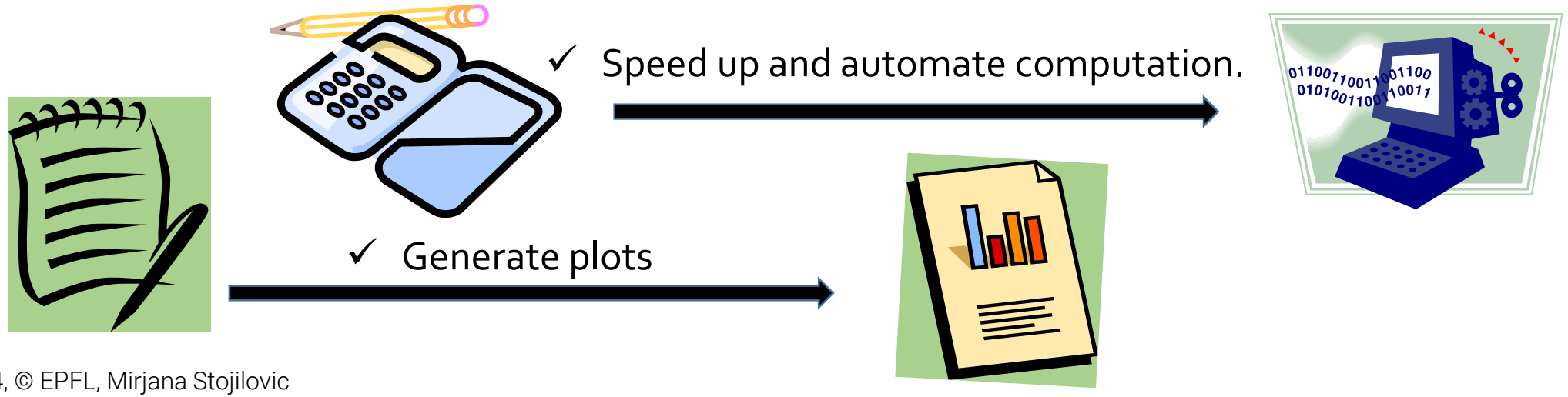
- Programming tools

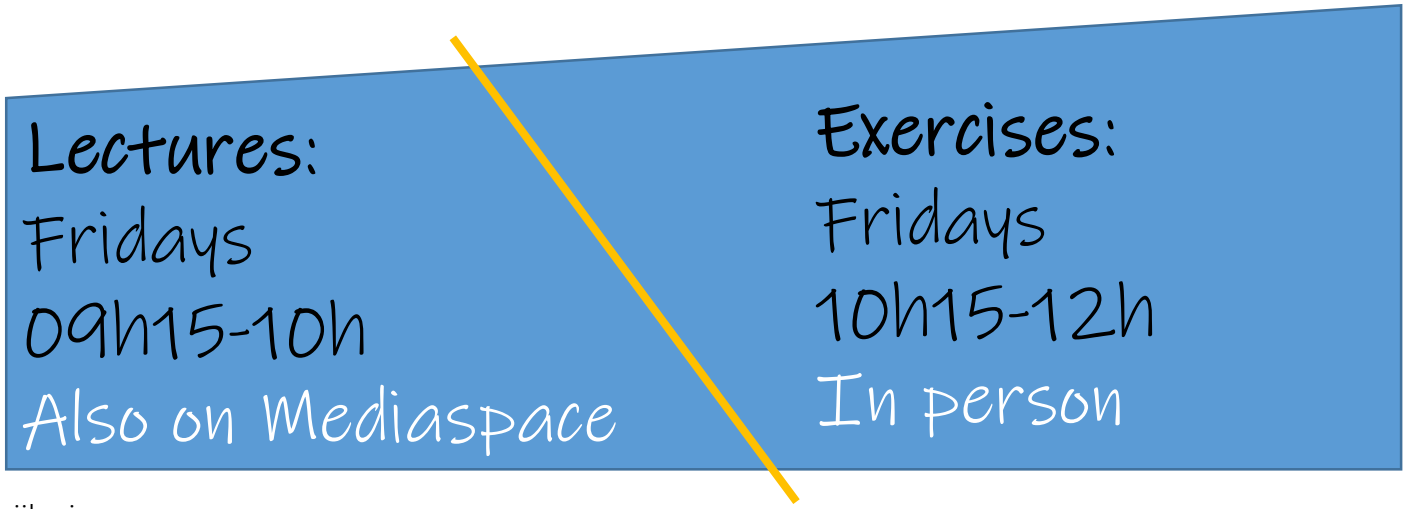
Objectives

- Get familiar with the basics of programming in Python
- Translate an algorithm into a Python program
- Solve a computational problem by writing a program
- Understand and modify a given program to fit new requirements
- Use programming as a tool



General Information

- Programming level required: none
- Course language: French
- Language for programming lectures only: English
- Lectures cover Python language concepts
- Hands-on exercises (coding) to practice and learn
- Forum – Ed Discussion: Join and participate



Semester Planning

- Weeks 1-6: Lectures and exercises
- Week 7: Friday morning, 1-Nov-2024
  - Midterm exam
  - 35% of the final grade
  - No programming part of the course this week
- Weeks 8-13: Lectures and exercises
  - Weeks 11-12: Mini programming project, individual or in pairs(recommended)
  - 15% of the final grade
- Week 14: Friday morning, 20-Dec-2024
  - Final exam
  - 50% of the final grade
  - No course

Exercise Sessions

- In person
- Bring your laptop and/or use virtual machines
- Recommended VMs:
  - **IC-CO-IN-SC-MA-2024-Fall**
  - **IC-CO-IN-SC-INJ-2024-Fall**
  - Instructions for connecting to VMs (log in to access)
- You can work individually or in pairs
- Teaching assistants are there for you, ask for help
- If you do not manage to finish all exercises during exercise sessions, try to finish them later

Exercise Sessions: Team and Rooms

Room	Max capacity	Section	Staff
BC 07	35	MX	Ali Ansari (EDIC), Abdessalam Derouich (master SC),
BC 08	39	MX	Prune Ollier (bachelor SC), Shashwat Shrivastava (EDIC),
CM 1 103	40	GC	Cristian Botocan (master IN), Fanny Bitoun (master SIE), Francois Goybet (master SC),
CM 1 110	21	GC	Jonathan Arnoult (master IN), Martina Gatti (master SC),
CM 1 112	36	GC	Elie Houeis (master GC), Lina Sadgal (master SC), Mohamed Abbes (bachelor IN)

** Adjustments possible during the semester*

Additional Support Sessions

- Weeks 3 – 7 (24-Sep, October), 11 – 14 (26-Nov, Dec)
- Tuesdays 15h15 - 17h00
- CM 1 104
- Format
  - Optional support sessions
  - Support for both the theory and programming part of CS-119(h)
  - Do not hesitate to attend

What to do @ home

- Connect remotely to the working stations
- PRACTICE

- Read: *Learning Python* by Mark Lutz, 5th edition

Programming Tools

What does programming mean?

- Programming means
  - Using a programming language
  - Creating a program that solves a given problem
    - A program is a sequence of program instructions
    - Instructions are specific to a programming language
  - Instruct the computer to run the program to solve the given problem

Programming Tools

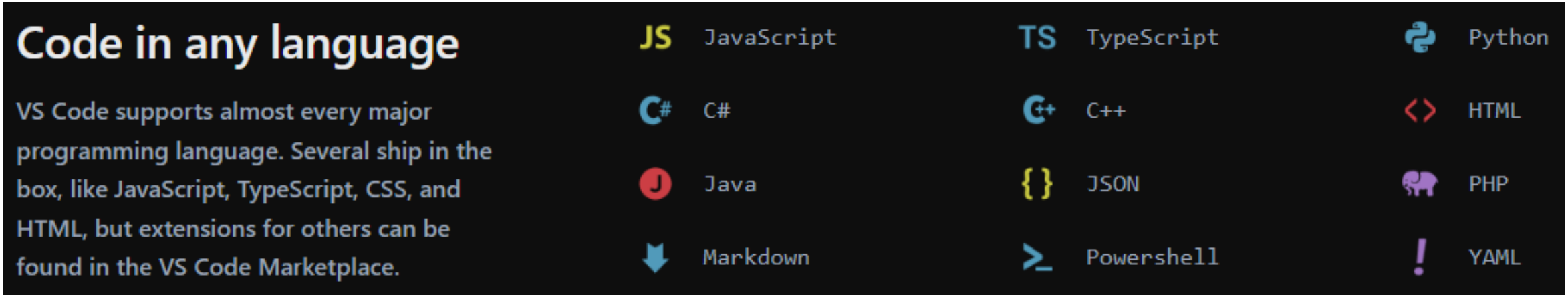
Which programming language will we study?

- **Python 3.10**
- Why do we call it a language
  - It has a grammar: https://docs.python.org/3.10/reference/grammar.html
  - It has a vocabulary
    - Words used by the language, keywords: https://docs.python.org/3.10/reference/lexical_analysis.html#keywords

Programming Tools

Which programming environment will we use?

- There are many integrated development environment (IDE) tools
- Visual Studio Code: https://code.visualstudio.com/



Programming Tools

Which programming environment will we use?

- There are many integrated development environment (IDE) tools
- Visual Studio Code: https://code.visualstudio.com/
  - On the computers in BC07-08
  - Accessible via VMWare Horizon Client in CM 1 103, CM 1 110, CM1 112
  - Accessible via virtual machines
    - **IC-CO-IN-SC-MA-2024-Fall**
    - **IC-CO-IN-SC-INJ-2024-Fall**
- We strongly encourage you to use this code editor
  - Technical support is not guaranteed for other editors and environments

Next Topic: First steps in Python

With interactive interpreter