

Week 4: Reading and Writing Data

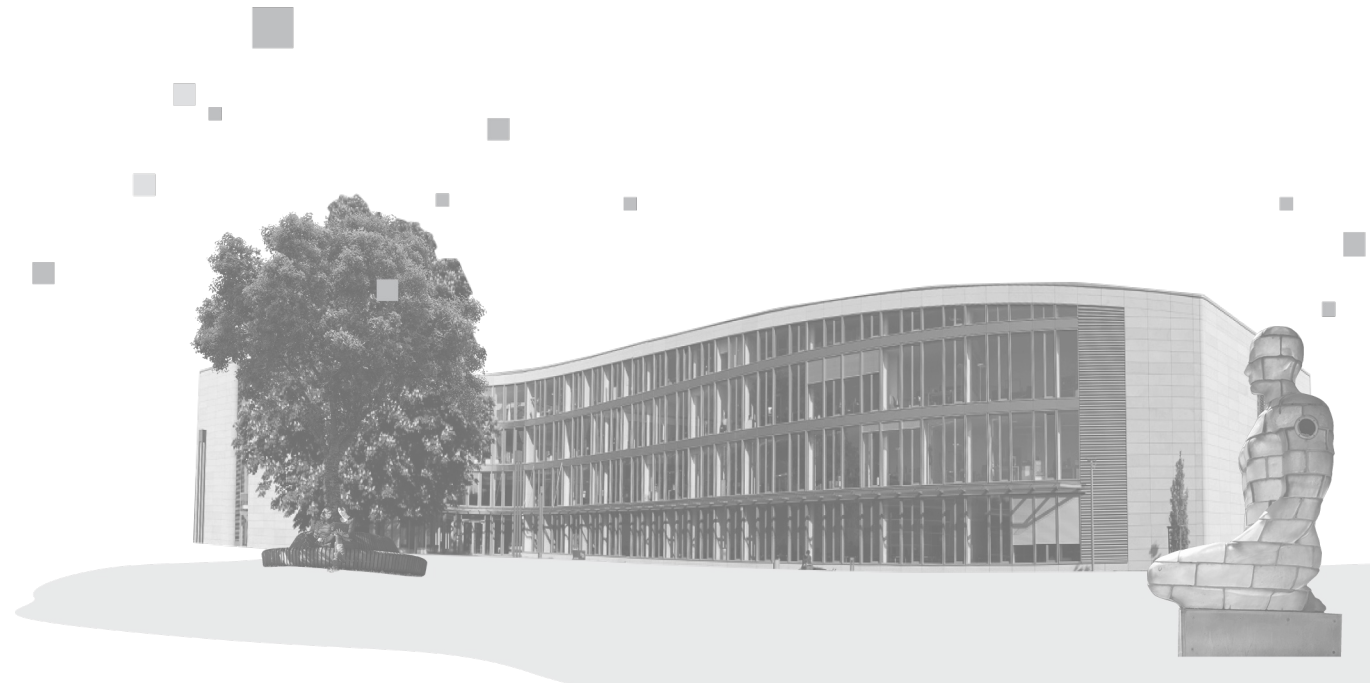
Unit 1: Motivation and Definition

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Motivation and definition

How can data be permanently stored?

- Right now, all the data processed in our programs is lost when the program is stopped.
- How can data be permanently stored, even when the computer is switched off?
- Read data from and write data into **files**
- Definition of a file:
 - Logically related
 - Usually sequentially ordered
 - Permanently stored (e.g. on a hard drive)
 - Identified by a name



Hard disk

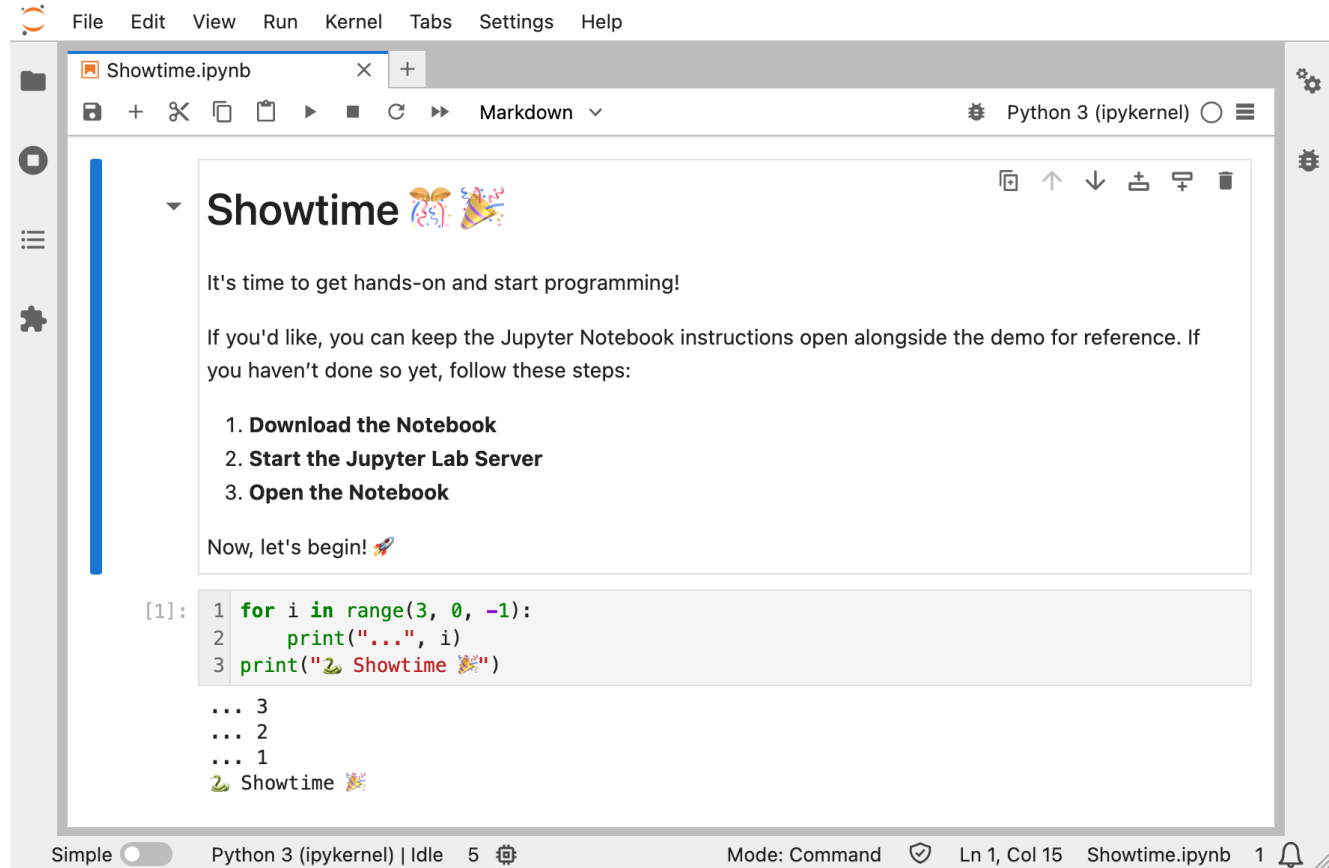
Motivation and definition Showtime

Now it's time to get hands on
and start programming!

If you like, you can open the
[Jupyter Notebook](#) instructions
in parallel to the demo.

If you haven't done so yet:

- [Download the Notebook](#)
- [Start the Jupyter Server](#)
[and open the Notebook](#)



```
File Edit View Run Kernel Tabs Settings Help
Showtime.ipynb
Python 3 (ipykernel)
Showtime
It's time to get hands-on and start programming!
If you'd like, you can keep the Jupyter Notebook instructions open alongside the demo for reference. If you haven't done so yet, follow these steps:
1. Download the Notebook
2. Start the Jupyter Lab Server
3. Open the Notebook
Now, let's begin!
[1]: 1 for i in range(3, 0, -1):
      2     print("...", i)
      3     print("🎉 Showtime 🎉")
      ... 3
      ... 2
      ... 1
      🎉 Showtime 🎉
Simple Python 3 (ipykernel) | Idle 5 Mode: Command Ln 1, Col 15 Showtime.ipynb 1
```

Motivation and definition

Summary / key takeaways

In this unit you learned ...

- ... that files are the classical means to store data

