

Python course I: the basics

July 24, 2023

What is Python?

- Object-oriented, general-purpose programming language
- Open-source (free, community-built and maintained)
- Easy to learn ("WYSIWYG")

Strengths and weaknesses

Strengths:

- Flexibility and scope
 - Packages are your best friend
 - Dominates Stata and R for more general-purpose applications like web scraping, ML
- Intuitive syntax
- Huge and supportive community

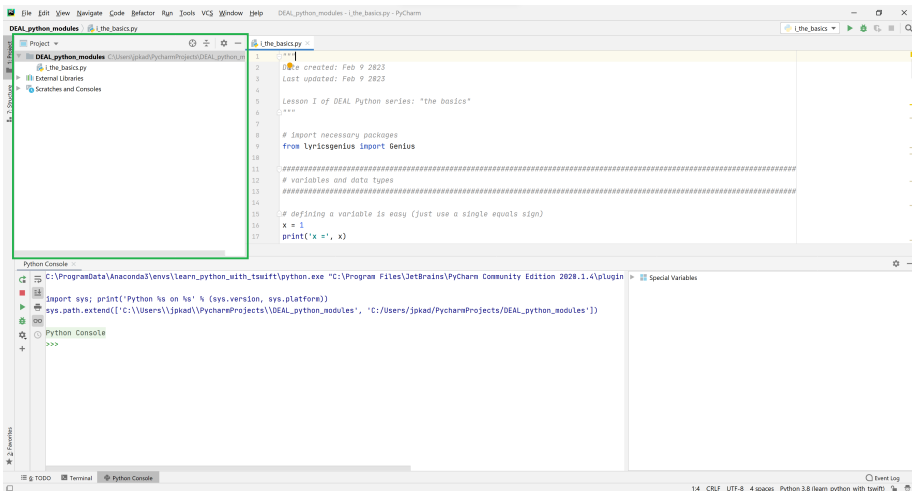
Weaknesses:

- Advanced statistical analysis (vs. R / Stata)
- Data visualization (vs. R, still way better than Stata)

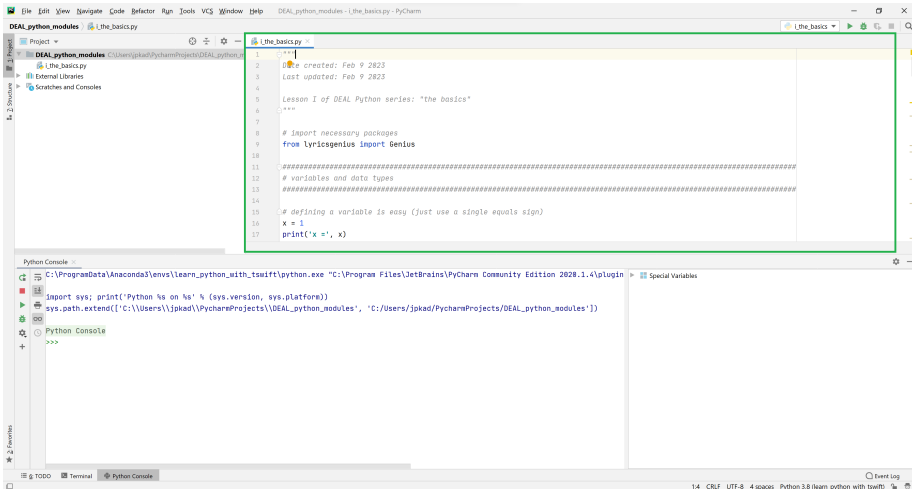
Code writing best practices

- Lots of comments (# in Python)
- Lots of white space
- Indentation matters!
- Balance readability and efficiency

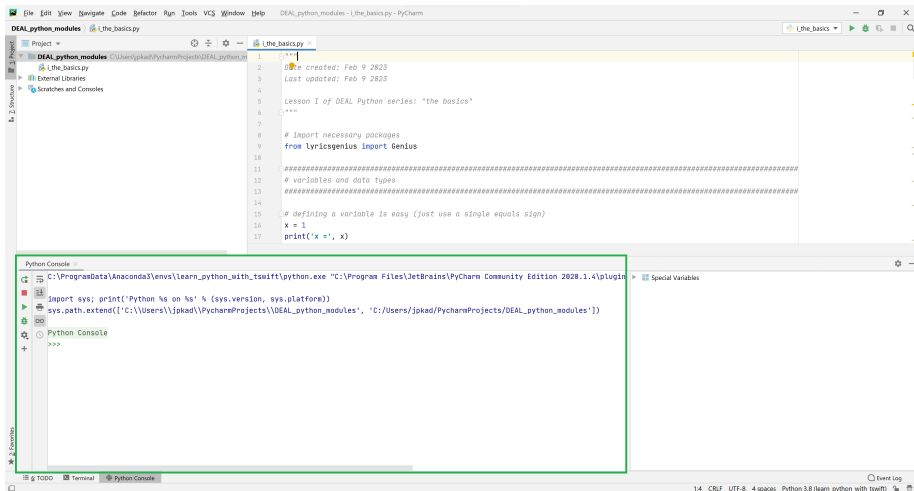
PyCharm tour: your project



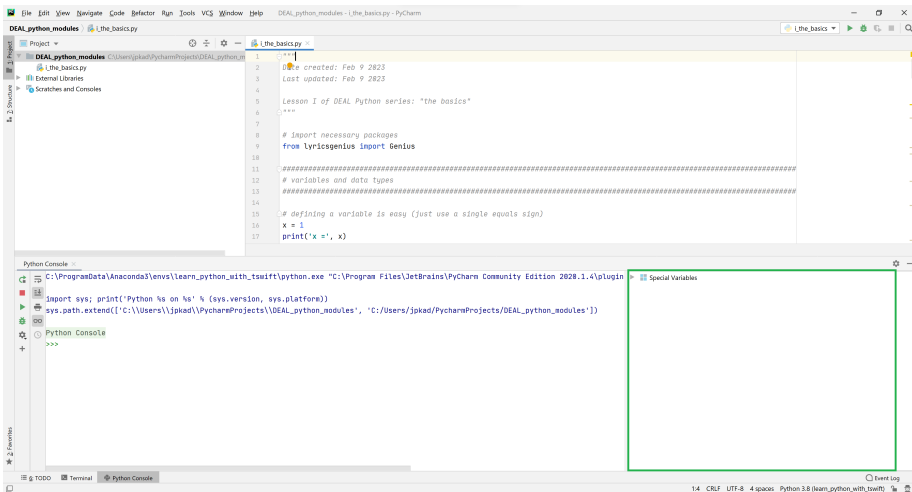
PyCharm tour: your code file



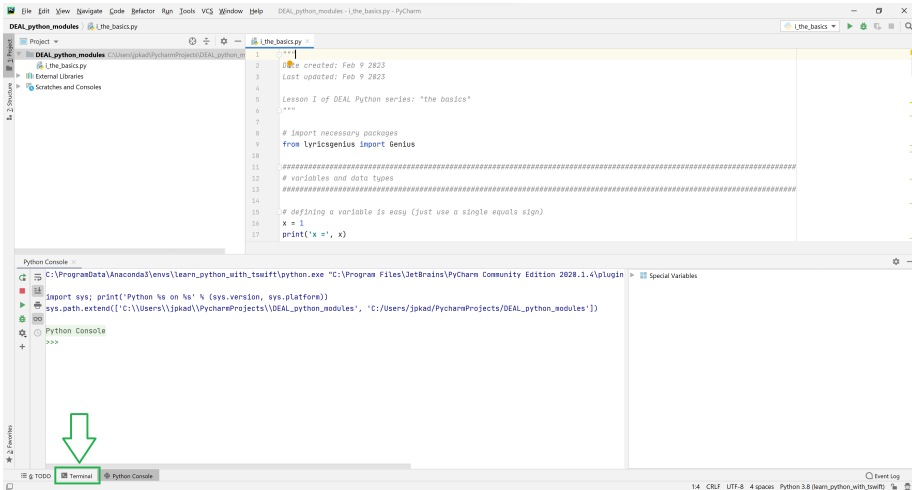
PyCharm tour: the console



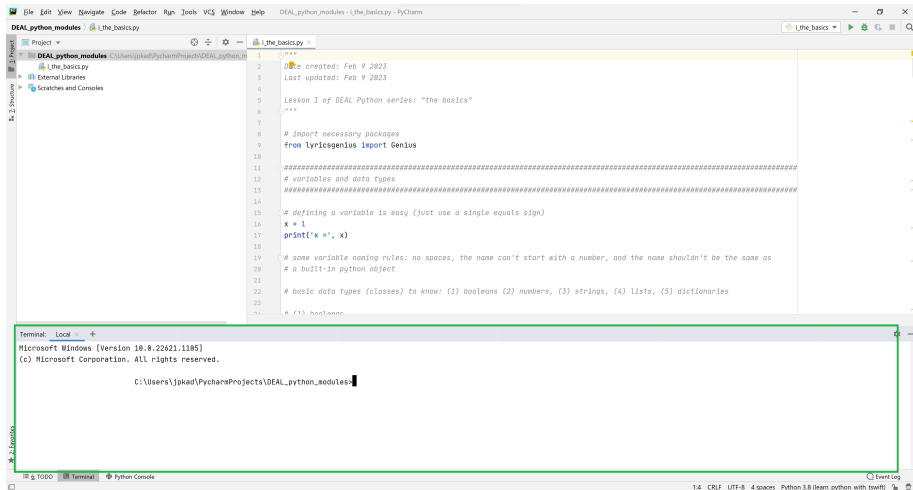
PyCharm tour: environment objects



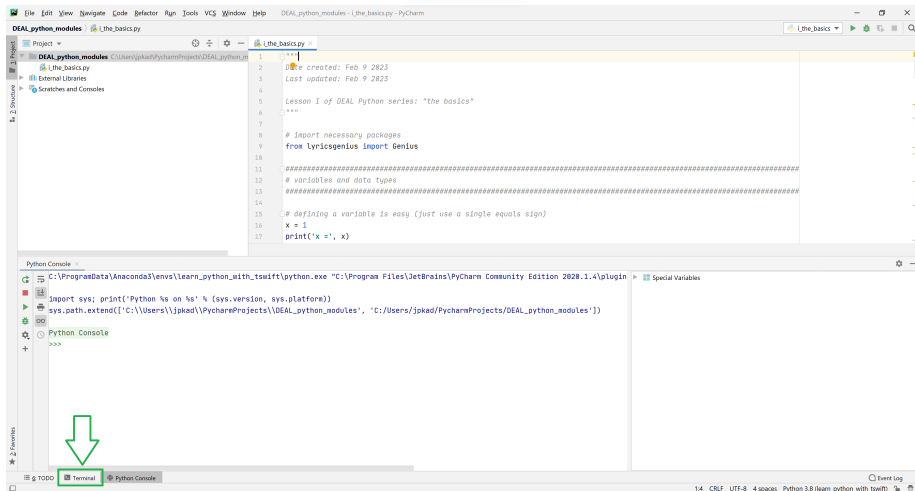
PyCharm tour: terminal



PyCharm tour: terminal



PyCharm tour: terminal



What you'll learn today:

- Variable assignment
- Basic object classes and their behavior
- Control flow statements (e.g., loops, conditionals)
- Functions
- Installing external packages and using an API
- Mini project example: which colors appear the most in Taylor Swift's lyrics?

