Programming with NumPy

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Outline

- Installing NumPy
- NumPy arrays
- NumPy matrices
- Basic operations using NumPy
- Further reading

Installing NumPy

- Linux: open terminal and type 'pip install numpy'
- Windows: open Anaconda prompt from start menu and type 'pip install numpy' (always install packages through Anaonda prompt)

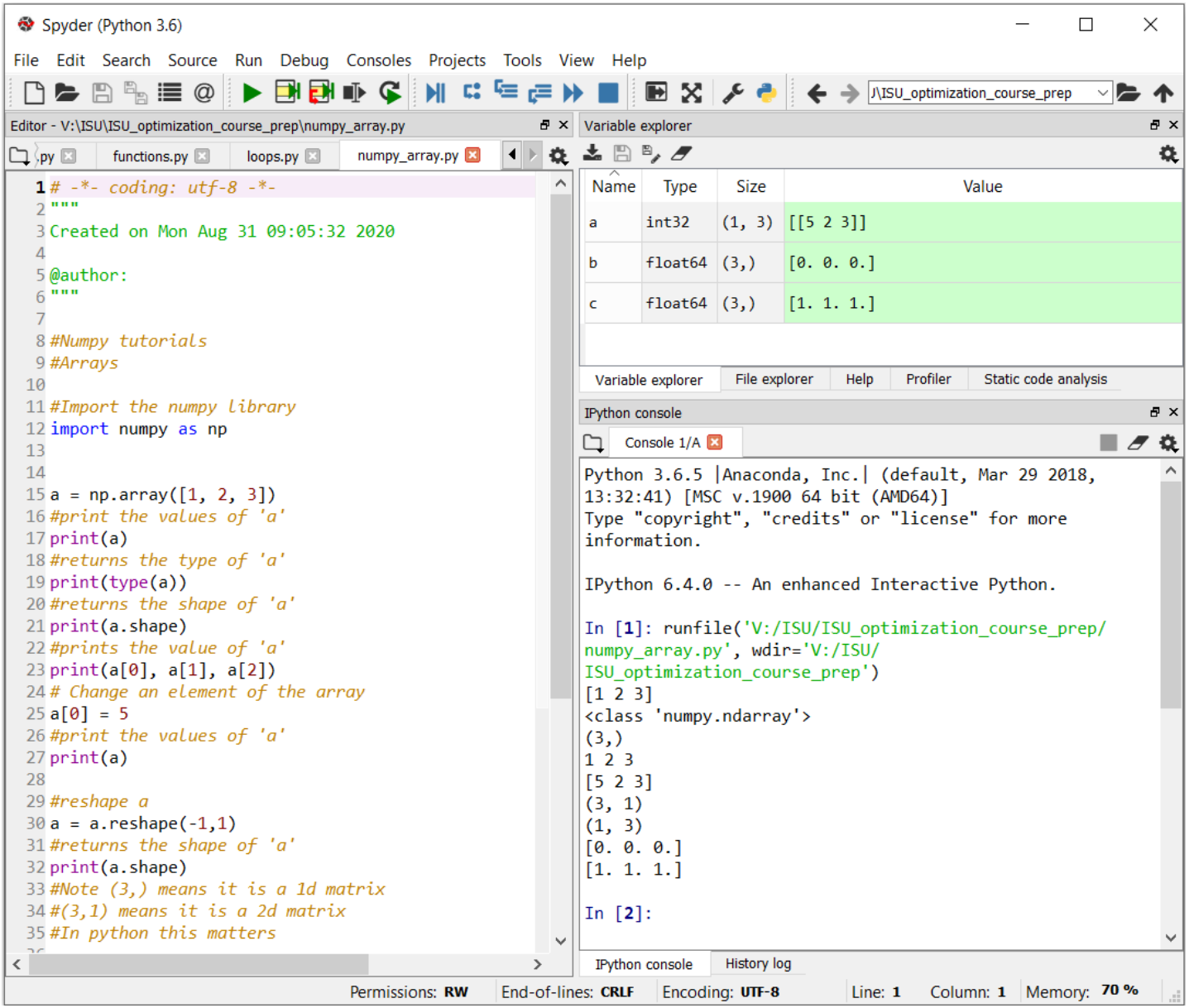
NumPy arrays

- Open the folder you have downloaded from GitHub
- Open the 03_programming_with_numpy folder
- Open arrays.py from Spyder and run it
- This code can also be found here : ▸ Link

This tutorial covers:

- Defining a NumPy array in Python
- Printing out its values, type and shape
- Printing out individual element values
- Changing individual element values
- Reshaping the array
- Defining a NumPy array of zeros and ones

NumPy arrays



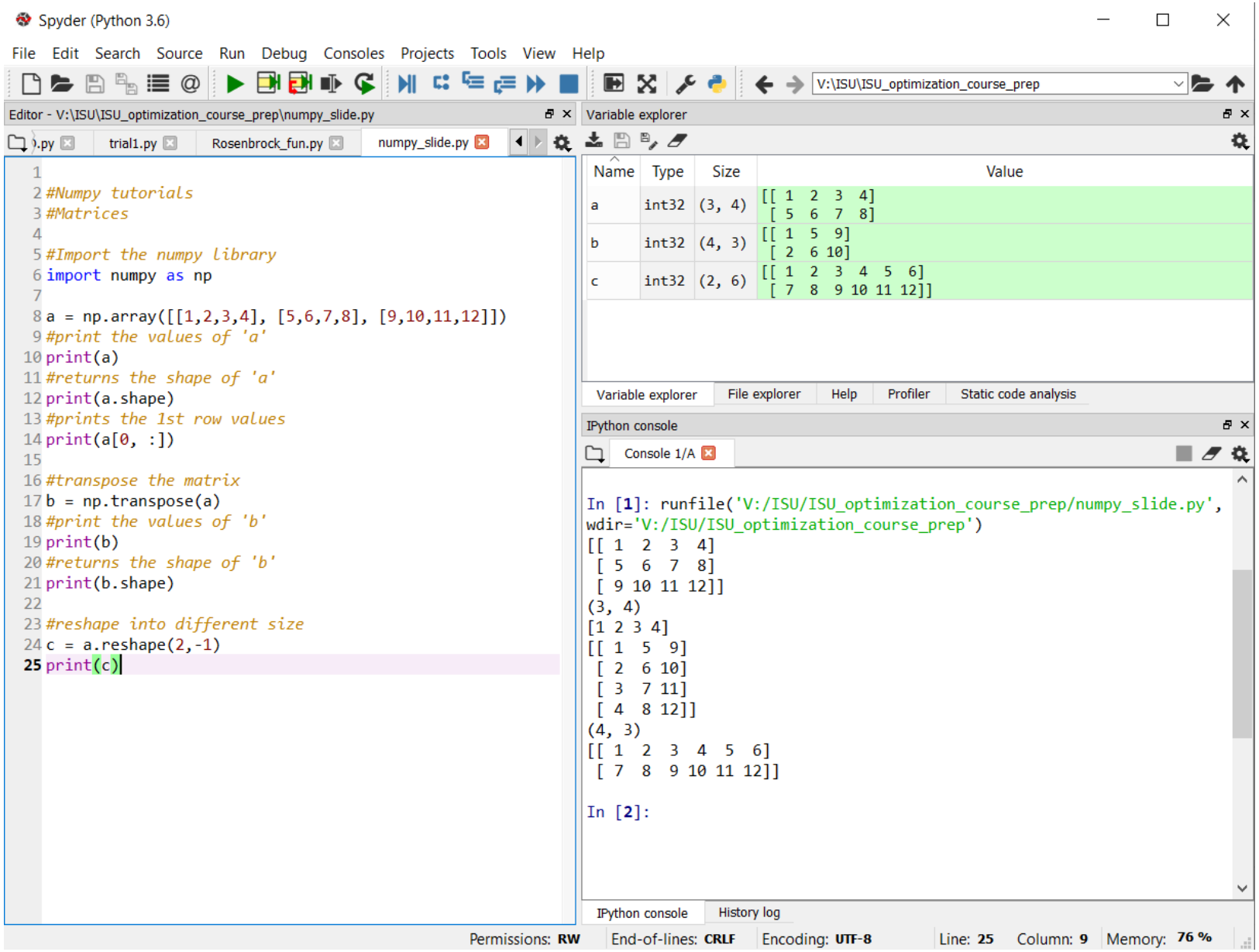
NumPy matrices

- Open the folder you have downloaded from GitHub
- Open the 03_programming_with_numpy folder
- Open matrices.py from Spyder and run it
- This code can also be found here : ▸ Link

This tutorial covers:

- Defining a NumPy matrix
- Printing out individual row values
- Transposing the matrix
- Reshaping the matrix

NumPy matrices



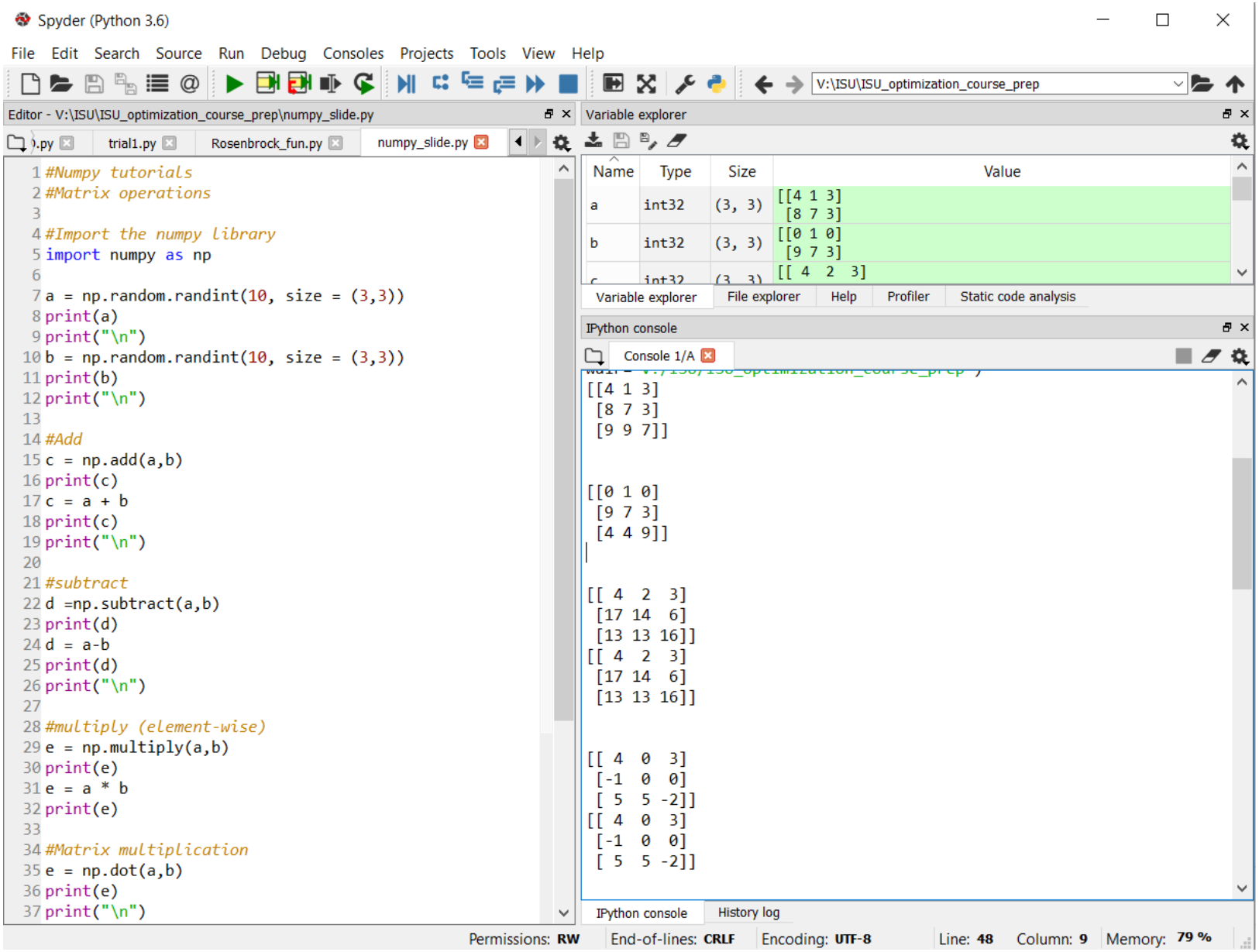
Basic operations using NumPy

- Open the folder you have downloaded from GitHub
- Open the 03_programming_with_numpy folder
- Open matrix_operations.py from spyder and run it
- This code can also be found here : Link

This tutorial covers:

- Defining a matrix with random integer values
- Adding and subtracting two matrices
- Matrix multiplication
- Element-wise multiplication
- Inverting a matrix

Basic operations using NumPy



Further reading

- Additional NumPy tutorials ▸ Link