NPRG065: Progamming in Python

Practicals 8

MATEMATICKO-FYZIKÁLNÍ
FAKULTA
Univerzita Karlova

Department of
Distributed and
Dependable
Systems

Assignments

1. Create a function which takes any number of numbers and returns their sum
2. Create a function which tests whether a string given as the argument is a palindrome or not
3. Create a function which generates a random password
   - It takes optional arguments with default values for the length of the password and the number of special characters
   - Useful functions: `random.randint(a, b)`, `random.choice(sequence)`

Assignments

4. Implement a simplified version of the `map` function
   - The function takes a list and a function and applies the function to each element in the list and returns a new list of results
   - Try to apply your function to map a list of strings to a list of strings where each string is reversed: `['one', 'two', 'three'] -> ['eno', 'owt', 'eerht']`

Assignments

5. Create a `fibo_gen(n)` generator which produces the Fibonacci numbers up to the n-th one
6. Create a `fibonacci(n)` generator which produces an unlimited sequence of the Fibonacci numbers
   - using it, implement: `fib(n)` function returning the n-th Fibonacci number and the `fibo_gen(n)` generator

Assignments

7. Create your own version of `range()`
   - `range` is a generator
   - It can be called with 1 or 2 or 3 arguments:
     - `range(limit)`
     - `range(start, limit)`
     - `range(start, limit, step)`

Assignments

8. Write a program, which displays files line by line
   - The files are specified as command line arguments
   - After displaying one line, the program waits for the user input – the user can:
     - Press **Enter** to display the next line
     - Press **n + Enter** to forget the rest of the current file and start with the next file
     - Press **q + Enter** to terminate the program
     - ***Anything else* + Enter** to display the next line