



Task 2.1-3. Generate password

Write a utility for generating passwords according to a given template that supports the CLI interface and logging (**-vvv** – show detailed information during processing)

Rules of template:

- Each token of template are separate symbol '%'.
- Tokens consist of two part <type_token> and <count>, A10.

List of type tokens

Type of Token	description
a	small lateral ASCII
A	big lateral ASCII
d	digit
p	Punctuations
-	- (same symbol)
@	@(same symbol)
[]	set type of token

count – number of symbols

Example:

A4%d3%-a2% => DHRF345-st

A4[%d%a%]3%-a2% => DHRF3s4-st | FHGFds4-vt | DERS774-sd

CLI interface can support next commands:

- l: Set length of password and generate random password from set {small lateral ASCII, big lateral ASCII, digit}
- t: Set template for generate passwords
- f: Getting list of patterns from file and generate for each random password
- c: number of passwords
- vvv: Verbose mode (-v |-vv |-vvv)
- h: help

Output: can be support pipe redirect

Reference:

- Основы построения Command Line Interfaces:
 - Изучить работу с модулем **argparse** — Parser for command-line options, arguments and sub-commands <https://docs.python.org/3/library/argparse.html>
 - How to Build Command Line Interfaces in Python With argparse -- <https://realpython.com/command-line-interfaces-python-argparse/#setting-the-action-to-be-taken-for-an1-argument>
- Logging in python:**
 - Logging HOWTO – <https://docs.python.org/3/howto/logging.html>
 - Advanced Logging Tutorial – <https://docs.python.org/3/howto/logging.html#logging-advanced-tutorial>
 - Logging Cookbook – <https://docs.python.org/3/howto/logging-cookbook.html>
 - logging.config – Logging configuration – <https://docs.python.org/3/library/logging.config.html>
 - logging.handlers – Logging handlers – <https://docs.python.org/3/library/logging.handlers.html>
 - Venkatesh-Prasad Ranganath, Priscill Orue. Python Logging Guide – Best Practices and Hands-on Examples. February 07, 2021 – <https://coralogix.com/log-analytics-blog/python-logging-best-practices-tips>
 - Nils Bunge, Emily Chang. How to collect, customize, and centralize Python logs. April 11, 2019 – <https://www.datadoghq.com/blog/python-logging-best-practices/>

Deadline 29.11.2021 at 17:00