MY PORTFOLIO.

Participating in this Python Developer Industry Training given by an experienced industry professional, I gained more benefits than expected. I improved more skills working on real projects remotely.

Skills improved:

Programming principles, OOP, JSON files, dataclasses, lambda functions, file manipulation, os interaction, regex, and unit testing.

Python Projects Portfolio

Automating Emails

- Developed a Python script that automates the process of sending emails to a large number of recipients using the SMTP and schedule libraries.
- Utilized JSON files to store email templates and credentials securely.
- Incorporated exception handling to handle errors such as incorrect credentials, invalid email addresses, and connection errors.
- Improved email personalization through the use of dataclasses and lambda functions.

Automating File Transfer

- Built a Python script that automates the process of transferring files between external and internal servers using the FTP and schedule libraries.
- Built a Python script that automates the process of downloading files from external server to an internal network, using the FTP and schedule libraries.
- Implemented regular expressions to validate input and output file paths.
- Designed the script to run as a daemon process to continuously monitor for new files to transfer.
- Added logging functionality to track the progress of file transfers and detect errors.

Caesar Cipher Algorithm

- Developed a Python script that implements the Caesar cipher algorithm, which shifts the letters in a message by a fixed number of positions.
- Enabled the script to handle upper and lower case letters, numbers, and special characters.
- Added support for custom shift values and repeated shift patterns.
- Optimized the script for efficiency and ease of use by encapsulating the logic in object-oriented programming principles.

Caesar Cipher Cracker

- Built a Python script that can automatically decipher messages encrypted with the Caesar cipher algorithm.
- Utilized brute-force attack techniques to decrypt the cipher message.
- Added support for brute-force attacks to crack messages with unknown shift values.
- Implemented unit testing to validate the accuracy and reliability of the cracking algorithm.

Hangman Game

- Developed a Python script that simulates the classic game of Hangman.
- Integrated a word generator that selects a random word from a list of pre-defined categories.
- Incorporated exception handling to handle errors such as incorrect user input and game over scenarios.

Files Manipulation

- Designed a Python script that manipulates various types of files, including text files, CSV files, and JSON files.
- Implemented file reading and writing capabilities using standard Python libraries such as os and shutil.
- Utilized object-oriented programming concepts such as inheritance and polymorphism to simplify the code and make it more modular.
- Added support for command-line arguments to customize the script's behavior and parameters.

Overall, this portfolio demonstrates my versatility as a Python developer and my potential to tackle complex programming challenges. It also unlocked my potentials and prepared me to be hired right away.

All the skills gained have been implemented in a Django project which will be available via the internet very soon.

Albert ANDEMIR'IRENGE GUBANJA

March 16, 2023