L4CG1 – Introductory Programming and Problem-Solving Skills

Individual Coursework

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1. What are the most challenging aspects of the coursework task?

⇒ The coursework required writing Python code for encrypting and decrypting messages using the Caeser Cipher. Below are some challenges faced during completion:

- It was difficult to understand the logic behind the Caeser Cipher algorithm as it was a new concept.
- It was difficult to follow every detail from the instructions like defining the function name as assigned and its uses were expected to be the same as well.
- Working in file input/output operations was challenging as file handling was just this week.
- Was challenging to utilize infinite loops(While True:) and for loops in various places.
- Difficulty in testing the program with various inputs i.e. both valid and invalid to ensure the program worked efficiently.
- Debugging was also crucial as the length of the program was 5 times bigger than our recent problems.
- Due to the high input volume, Error-handling also proved to be challenging work.
- It was a challenge to consolidate everything we've learned into one program.

2. How did you go about completing the task?

⇒ It was a challenging task that required me to apply everything that was taught so far . However, I managed to complete it successfully by following these steps:

- I tried to break down the problem into parts to develop a proper algorithm to follow while coding.

- I have implemented the functions that were provided in the question, using the same names and with the same work instructed inside the functions.

- Gained some more insights on the logic of encryption and decryption and applied it efficiently.

- Even though error handling was taught a day before, I have used it for better inputs.

- Added comments everywhere for a better understanding of the code from function to function.

- Tested the program multiple times so that it could work as efficiently as instructed.

- At last checked if there were any bugs in the code to solve before submitting.

3. What have you learned over the course of completing this coursework task?

- Got some experience in working with the proper instructions.

- Learned to carefully break down the problem for better understanding.

- Understood the concept and logic behind the Ceaser Cipher method for encrypting and decrypting messages.

- Gained some insights on managing files, which includes writing data into files and checking for file existence using os.path module.

- Got experience in defining functions for their proper utilization.

- Learned the proper utilization of finite and infinite loops.

- Gained knowledge of new concepts i.e. try-except for error handling.

- Gained experience in testing the program after its completion and debugging problems arising while coding for expected output with no error.