

Coding Challenge 2

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

One of the most challenging aspects of this coursework task was implementing the encryption and decryption functions. While the rest of the code was relatively straightforward, figuring out how to shift the message input by the user through a predetermined array proved to be quite difficult. It required a significant amount of trial and error, as well as a good deal of research, to come up with a solution. However, once I discovered the `list.index(element)` method, I was able to complete the coursework in a much more efficient manner. Overall, the encryption and decryption functions presented the most significant hurdle in completing this task, but the experience of overcoming that challenge was ultimately quite rewarding.

2. How did you go about completing the task?

I began by creating a flowchart to visualize the program and understand the task at hand. I then focused on the `encrypt()` function, specifically on how to shift each character of the message by the given shift number through an array. I used a for loop and the `list.index(element)` method to achieve this. I then experimented with the `ord()` and `chr()` functions to modify the alphabet array and made a new variable called `finalNumber` which added the shift number to the index of the current character. I then used the modulus operator to wrap around the array and added the resulting character to the `encrypted_message` variable. I also added user input for the message and shift variables and handled spaces in the input by ignoring them in the encryption process. With this, I had a solution that was easy to understand and implement.

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

In completing this coursework task, I have gained a deeper understanding of problem solving and breaking down a complex task into manageable segments. I have also become familiar with various Python functions such as `list.index(element)` which proved to be crucial in solving a particular aspect of the task. Additionally, I have learned that a seemingly difficult task can be made much more manageable by approaching it from different angles and utilizing the appropriate tools and techniques. Overall, this task has further reinforced the importance of thorough planning and problem solving in the coding process.