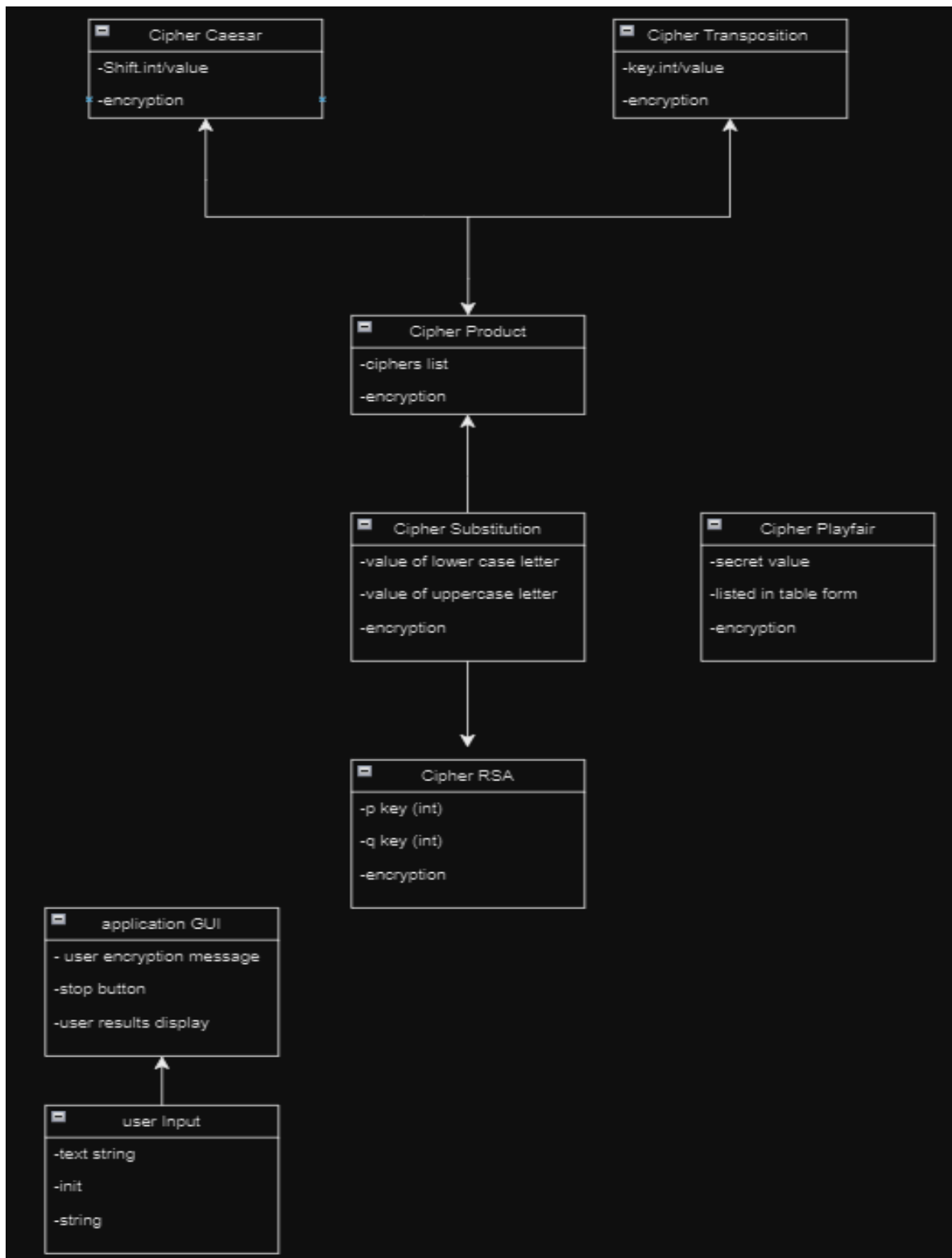


# Program Explanation

This program is on a simple surface level essentially a tool. The purpose of this tool is to be able to use a total of six cryptography techniques that are accessible in a single simple-to-use graphical user interface. My program includes all of the six required techniques and uses object-oriented principles and styles of coding to encapsulate themes into their object or classes. When users interact with the program provided the GUI not only looks appealing but is also effective with the use of the tkinter import library. Users will then be able to choose the preferred technique of cryptography and input the desired message they wish to encrypt. Then The GUI must be able to take in multiple inputs while the program must also be able to encrypt and display the results. The program also has proper error handling where numbers, blank spaces, and special characters aren't allowed to be inputted. This program is structured in a way where we use multiple classes. Every single class is a different aspect of the program including the 6 techniques of cryptography. In conclusion, the program is user-friendly and demonstrates a wide variety of encryption methods providing a clean and thoughtful interface for users to explore the world of cryptography. On the next page, a class diagram will be shown.

## Class Diagram



This class diagram is drawn to show how the various ciphers have formed a bond in the GUI application. It starts by using the GUI application to gain and start the encryption for the user's input. The program starts with the Caesar cipher and then to the transposition to substitution leading to Playfair then finally reaching RSA. All of the objects are defined as classes that have methods for encrypting in their way. An example we could use is RSA how it uses a lot of math and multiple methods and classes to properly encrypt the users input. The GUI is the captain in the sense of how it arranges the process of every encryption technique. It does this by taking in user input and passing through the ciphers that are selected. To sum up, the diagram shows a nicely structured way how to combine complex encryptions into a nice clean proper UI that makes it a good experience for the user to complete the difficult task of encryption.