Morse Code Calculator Project Summary

Overview:

The Morse Code Calculator project is a simple yet effective program designed to encode and decode text using Morse code. Morse code is a method used in telecommunication to encode text characters as sequences of two different signal durations, called dots and dashes. The project aims to provide a user-friendly interface for encoding regular text into Morse code and decoding Morse code back into text.

Key Features:

- The program is implemented in C programming language.
- Encoding to Morse Code: Users can input text, including alphabetic characters (A-Z), digits (0-9), and special symbols such as period, comma, question mark, etc. The program converts the text into Morse code representation.
- Decoding from Morse Code: Users can input Morse code sequences, separated by spaces, and the program decodes it into text. The Morse code sequences are translated back into their corresponding characters.
- Error Handling: The program includes robust error handling mechanisms. It verifies the validity of both input text and Morse code sequences. If an invalid character or sequence is detected, appropriate error messages are displayed to the user.
- Case Insensitivity: The program handles case insensitivity by converting all input characters to uppercase during encoding. This ensures consistent encoding regardless of the case of the input text.
- User Interface: The program provides a simple menu-based interface for users to select encoding, decoding, or exiting options. It guides the user through each step, making the process intuitive and easy to follow

Implementation:

- Functions are modularized to perform specific tasks, including encoding, decoding, input validation, and user interface management.
- Error handling is implemented using conditional statements and appropriate error messages are displayed when invalid input is encountered.

Conclusion:

The Morse Code Calculator project demonstrates a practical implementation of Morse code encoding and decoding functionalities. It provides a useful tool for encoding text messages into Morse code for communication or educational purposes. With its user-friendly interface and error handling capabilities, the program offers a seamless experience for users interested in Morse code communication.