**Problem Statement**

Cryptarithmetic puzzles are a type of mathematical problem where each letter represents a unique digit. The objective is to replace the letters with digits in such a way that the resulting arithmetic operation is valid. These puzzles are challenging because they combine logic, arithmetic, and combinatorial reasoning.

The goal of this project is to develop a program that can solve cryptarithmetic puzzles efficiently. The program will take a given puzzle as input, apply constraint satisfaction techniques such as backtracking and forward checking, and output the correct digit-letter mapping. This will be useful for understanding algorithm design, optimization, and constraint-solving techniques in artificial intelligence.

**Key objectives include:**

1. Formulating the puzzle as a constraint satisfaction problem (CSP).
2. Implementing backtracking search with heuristics like Minimum Remaining Values (MRV).
3. Using forward checking to improve efficiency.
4. Displaying the solution in a clear format for validation.

This project demonstrates the practical application of AI search strategies and constraint satisfaction in solving real-world logic problems.