Week 4 Individual Report

- **Give a URL links to an existing online puzzle/game that is similar to your product.**

  https://www.mathsisfun.com/games/broken-calculator.html

- **Indicate if the existing online puzzle/game does provide solutions to users.**

  No, it won't provide any solutions

- Assume that your program is solving the same problem that are given to users.

  - **What is your approach (algorithm)?**

    The algorithm initializes a target number with a random operand and iteratively applies random operators and operands within a specified maximum number of iterations to update the target number until the desired complexity is reached.

  - **Is your algorithm the optimal ? Why or Why not?**

    The algorithm's optimality depends on the specific requirements and constraints of the application. While it provides flexibility in controlling complexity and adaptability to user preferences, its optimality hinges on factors like the efficiency of random selection, potential for reducing iterations, and dynamic adjustment mechanisms.

  - **Give the proved or estimated time complexity of your algorithm.**

    The proved or estimated time complexity of the algorithm is O(N * M * K), where N is the maximum number of iterations allowed, M is the number of operators, and K is the number of operands. This complexity reflects the iterative process of updating the target number with random operators and operands within the specified constraints. Further optimization may be possible depending on the specific implementation details and constraints of the problem.