



CosmiCode

Educating the Next Wave of Tech Pioneers.

Week 4 Tasks

- **Task 1:** Implement a binary search algorithm to find the position of a target value within a sorted list.
- **Task 2:** Write a program to perform matrix multiplication for two given matrices.
- **Task 3:** Create a program to solve the Tower of Hanoi problem recursively.
- **Task 4:** Implement a program that uses a dictionary to count the frequency of each character in a string.
- **Task 5:** Write a program to find the shortest path in a graph using Dijkstra's algorithm.



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Week 4 Guide

Objective: Learn and implement advanced data structures and algorithms.

- Task 1: Implement binary search to find the position of a target value in a sorted list. Refer to W3Schools Binary Search.
- Task 2: Write a program for matrix multiplication. Refer to Programiz Matrix Multiplication.
- Task 3: Solve the Tower of Hanoi problem using recursion. Refer to GeeksforGeeks Tower of Hanoi.
- Task 4: Use a dictionary to count the frequency of each character in a string. Refer to W3Schools Python Dictionaries.
- Task 5: Implement Dijkstra's algorithm to find the shortest path in a graph. Refer to GeeksforGeeks Dijkstra's Algorithm.



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