

CODE CHALLENGE: Solve the Pattern Matching Problem (restated below).

Pattern Matching Problem: *Find all occurrences of a pattern in a string.*

Input: Two strings, *Pattern* and *Genome*.

Output: All starting positions where *Pattern* appears as a substring of *Genome*.

Note: Throughout this chapter, we will use **0-based indexing** in problem implementations, meaning that count starting at 0 instead of 1. For example, the starting positions of **ATA** in **CGATATATCCATAG** are 2, 4, and 10, instead of 3, 5, and 11.

Sample Input:

ATAT

GATATATGCATATACTT

Sample Output:

1 3 9