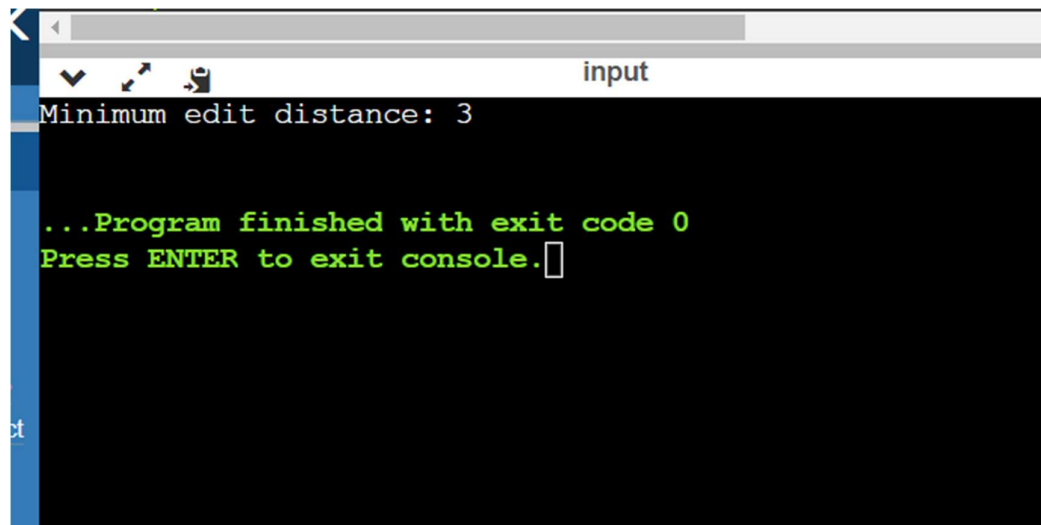**Problem 5** Edit Distance

```python
def edit_distance(s1, s2):

    m, n = len(s1), len(s2)


    # Initialize a 2D table to store the edit distances
    dp = [[0 for _ in range(n + 1)] for _ in range(m + 1)]


    # Fill in the base cases (first row and first column)
    for i in range(m + 1):
        dp[i][0] = i
    for j in range(n + 1):
        dp[0][j] = j


    # Fill in the rest of the table using dynamic programming
    for i in range(1, m + 1):
        for j in range(1, n + 1):
            if s1[i - 1] == s2[j - 1]:
                dp[i][j] = dp[i - 1][j - 1]
            else:
                dp[i][j] = 1 + min(dp[i - 1][j],        # Deletion
                            dp[i][j - 1],      # Insertion
                            dp[i - 1][j - 1])    # Replacement


    return dp[m][n]



s1 = "kitten"
s2 = "sitting"
print("Minimum edit distance:", edit_distance(s1, s2))
```

```
Minimum edit distance: 3


...Program finished with exit code 0
Press ENTER to exit console.
```