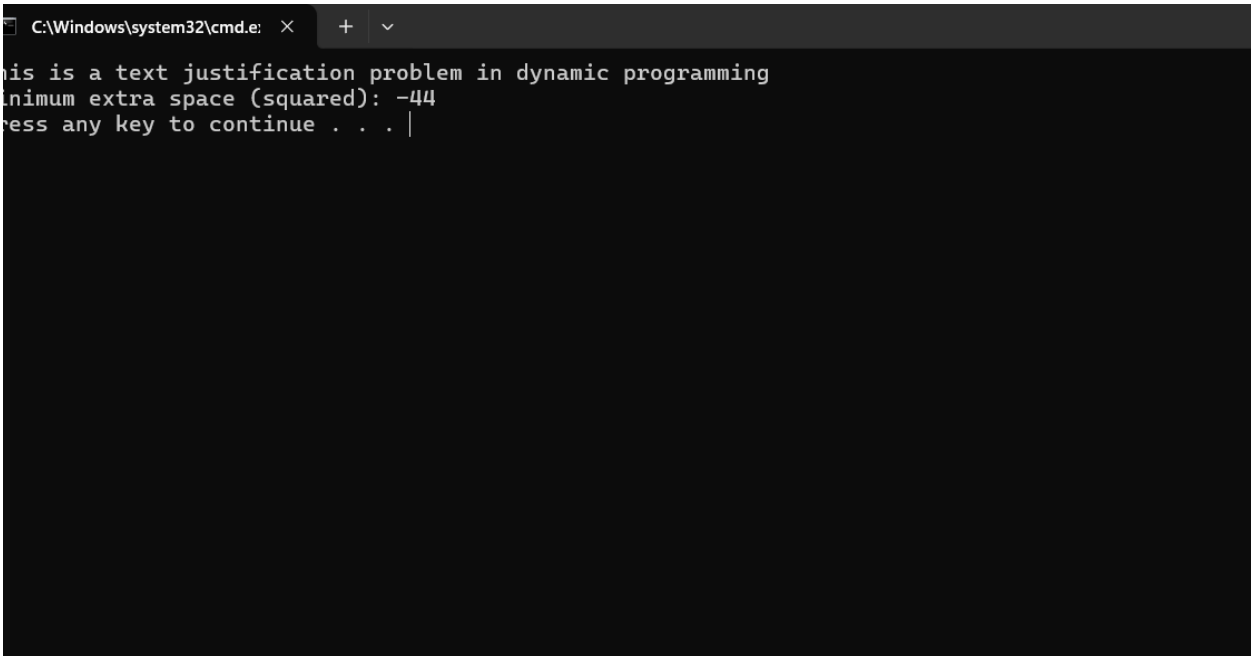
104)Word Wrap Problem

CODE:

```
import sys

def word_wrap(words, M):
    n = len(words)
    cost = [[0] * n for _ in range(n)]

    for i in range(n):
        cost[i][i] = M - len(words[i])
        for j in range(i + 1, n):
            cost[i][j] = cost[i][j - 1] - len(words[j]) - 1

    dp = [0] * n
    p = [0] * n

    for i in range(n - 1, -1, -1):
        dp[i] = sys.maxsize
        for j in range(i, n):
            if cost[i][j] < sys.maxsize:
                if j == n - 1:
                    temp = 0
                else:
                    temp = dp[j + 1]
                if dp[i] > cost[i][j] + temp:
                    dp[i] = cost[i][j] + temp
                    p[i] = j + 1

    start = 0
    while start < n:
        end = p[start]
        print(' '.join(words[start:end]))
        start = end

    return dp[0]

words = ["This", "is", "a", "text", "justification", "problem", "in", "dynamic",
"programming"]
M = 15
print("Minimum extra space (squared):", word_wrap(words, M))
```

OUTPUT:



TIME COMPLEXITY :