Exercisewe169:-

Given an input string and a dictionary of words, find out if the input string can be segmented into a space-separated sequence of dictionary words.Consider the following dictionary { i, like, sam, sung, samsung, mobile, ice, cream, icecream, man, go, mango}

Program:-

```python
def word_break(s: str, wordDict: [str]) -> bool:
    word_set = set(wordDict)
    dp = [False] * (len(s) + 1)
    dp[0] = True
    for i in range(1, len(s) + 1):
        for j in range(i):
            if dp[j] and s[j:i] in word_set:
                dp[i] = True
                break
    return dp[len(s)]
s = "ilikesamsung"
wordDict = ["i", "like", "sam", "sung", "samsung", "mobile", "ice", "cream", "icecream", "man", "go", "mango"]
print(word_break(s, wordDict))
s = "ilikeicecream"
print(word_break(s, wordDict))
s = "ilikeicecreammango"
print(word_break(s, wordDict))
s = "ilikeapple"
print(word_break(s, wordDict))
```

Output:-

```
C:\Users\afree\PycharmProjects\pythonProject\.venv\Scripts\python.exe C:\Users\afree\PycharmProjects\pythonProject\0.py
True
True
True
False

Process finished with exit code 0
```

Time complexity:-O(n^2)