Week6_Q3

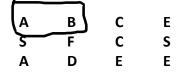
A B C E S F C S A D E E

Word = "ABCCED"

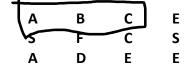
First it searches for A

A B C E
S F C S
A D E E

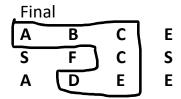
Now it searches for B around A



Next for C around B



Next C around last c Next E around C Next D around E



CODE:

```
def exist(board, word):
    def backtrack(board, word, row, col, index):
        if index == len(word):
            return True
       if (
           row < 0 or row >= len(board) or
            col < 0 or col >= len(board[0]) or
           board[row][col] != word[index]
       ):
            return False
       temp = board[row][col]
       board[row][col] = '#'
       found = (
            backtrack(board, word, row - 1, col, index + 1) or # Up
            backtrack(board, word, row + 1, col, index + 1) or # Down
           backtrack(board, word, row, col - 1, index + 1) or # Left
           backtrack(board, word, row, col + 1, index + 1) # Right
       )
       board[row][col] = temp
        return found
    for row in range(len(board)):
        for col in range(len(board[0])):
            if backtrack(board, word, row, col, 0):
                return True
    return False
board = [["A","B","C","E"],["S","F","C","S"],["A","D","E","E"]]
word = "ABCCED"
print(exist(board, word))
```

