123.SUBSET SUM PROBLEM

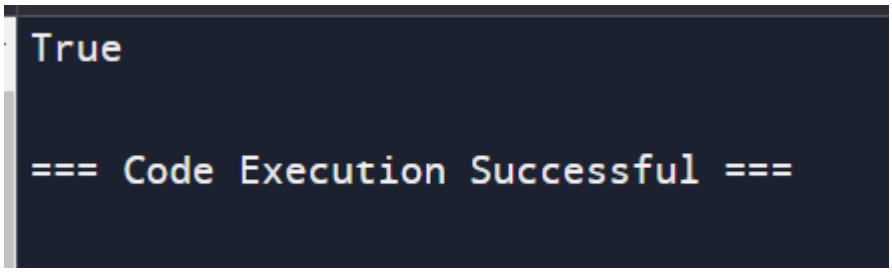
PROGRAM:-
```
def is_subset_sum(S, n, T):
    # Base cases
    if T == 0:
        return True
    if n == 0:
        return False

    # If the last element is greater than sum, ignore it
    if S[n-1] > T:
        return is_subset_sum(S, n-1, T)

    # Check if sum can be obtained by any of the following:
    # (a) including the last element
    # (b) excluding the last element
    return is_subset_sum(S, n-1, T) or is_subset_sum(S, n-1, T - S[n-1])

# Example usage
S = [3, 34, 4, 12, 5, 2]
T = 9
n = len(S)
print(is_subset_sum(S, n, T))  # Output: True
```

OUTPUT:-



TIME COMPLEXITY:-$O(2^n)$