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Expt No.05:Sum of Subset Problem.

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In [11]: 1 S = input("Enter the elements of set S separated by space:").split()
2 S = [int (x) for x in S]
3 print("Set S :",S)
4 d = int(input("Enter the sum d: "))
5
6 def Sum_of_Subset(S, d):
7     result = []
8
9     def backtrack(start, current_subset, current_sum):
10         if current_sum == d:
11             result.append(list(current_subset))
12             return
13         if current_sum > d:
14             return
15
16         for i in range(start, len(S)):
17             current_subset.append(S[i])
18             backtrack(i + 1, current_subset,current_sum + S[i])
19             current_subset.pop()
20
21     backtrack(0, [], 0)
22
23     return result
24
25 subset = Sum_of_Subset(S, d)
26
27 if subset:
28     print("Subsets whose sum is", d, ":")
29     for subset in subset:
30         print(subset)
31
32 else:
33     print("No subset found with sum", d)
```

Enter the elements of set S separated by space:1 2 5 6 8

Set S : [1, 2, 5, 6, 8]

Enter the sum d: 9

Subsets whose sum is 9 :

[1, 2, 6]

[1, 8]