

Assignment No 5

Sum of Subsets

```
#include <bits/stdc++.h>
```

```
using namespace std;
```

```
bool flag = 0;
```

```
void PrintSubsetSum(int i, int n, int set[], int targetSum,  
                    vector<int>& subset)
```

```
{
```

```
    if (targetSum == 0) {
```

```
        flag = 1;
```

```
        cout << "[ ";
```

```
        for (int i = 0; i < subset.size(); i++) {
```

```
            cout << subset[i] << " ";
```

```
        }
```

```
        cout << "]";
```

```
        return;
```

```
    }
```

```
    if (i == n) {
```

```
        return;
```

```
    }
```

```
    PrintSubsetSum(i + 1, n, set, targetSum, subset);
```

```
    if (set[i] <= targetSum) {
```

```

        subset.push_back(set[i]);

        PrintSubsetSum(i + 1, n, set, targetSum - set[i],
                        subset);

        subset.pop_back();
    }
}

int main()
{
    int n;
    cout<<"Enter the number of elements : ";
    cin>>n;
    int set[n];
    cout<<"Enter the elements : ";
    for(int i=0;i<n;i++){
        cin>>set[i];
    }
    vector<int> subset;
    int sum;
    cout<<"Enter the sum for the subsets : ";
    cin>>sum;
    cout<<"Sum of Subsets Output :";
    PrintSubsetSum(0, n, set, sum, subset);

    if (!flag) {
        cout << "There is no such subset";
    }
}

```

```
        return 0;  
    }
```

Output

Enter the number of elements : 6

Enter the elements : 3 3 4 4 12 5 2

Enter the sum for the subsets : 9

Sum of Subsets Output :[4 5][3 4 2]