

~\Downloads\coin change (1st variation) (1).cpp

```
1  #include<bits/stdc++.h>
2  #define ll long long
3  #define N ((int)1e5 + 5)
4  #define MOD ((int)1e9 + 7)
5  #define MAX ((int)1e9 + 7)
6  #define MAXL ((ll)1e18 + 7)
7  #define MAXP ((int)1e3 + 7)
8  #define thr 1e-8
9  #define pi acos(-1)  /// pi = acos ( -1 )
10 #define fastio ios_base::sync_with_stdio(false),cin.tie(NULL)
11 #define endl "\n"
12
13 using namespace std;
14
15 int dpp[105][100005] , coin[105] , n;
16
17 /// 'yes' 'no' variation
18
19 bool call(int idx , int rem)
20 {
21     if(rem < 0) return 0;
22     if(rem == 0) return 1;
23     if(idx > n) return 0;
24     if(dpp[idx][rem] != -1) return dpp[idx][rem];
25     return dpp[idx][rem] = call(idx+1,rem) | call(idx+1,rem - coin[idx]);
26 }
27
28 int main()
29 {
30     fastio;
31     int val;
32     cin>>n>>val;
33     for(int i = 1 ; i<=n ; i++) cin>>coin[i];
34     memset(dpp,-1,sizeof dpp);
35     if(call(1,val)) cout<<"YES\n";
36     else cout<<"NO\n";
```

```
37     return 0;  
38 }  
39
```