```cpp
#include <bits/stdc++.h>
using namespace std;

int n;
int A[21];
int M[21][21];

int dp[21][1<<21];

int solve(int current, int w,int visi){
    visi |= (1 << current);
    if(w<=0)
        return 0;
    int ans = 0;
    if(dp[current][visi]!=-1) return dp[current][visi];
    for(int i=0;i<n;i++){
        if(!(visi & (1 << i)) and w-(A[i]+M[current][i]) >= 0){
            ans = max(ans,solve(i,w-(A[i]+M[current][i]),visi)+1);
        }
    }
    return dp[current][visi] = ans;
}


main(){
    ios base::sync with stdio(0);
    cin.tie(0);
    while(cin >> n and n){
        memset(dp,-1,sizeof dp);
        for(int i=0;i<n;i++){
            cin >> A[i];
        }
        for(int i=0;i<n;i++){
            for(int j=0;j<n;j++){
                cin >> M[i][j];
            }
        }
        int ans = 0;
        for(int i=0;i<n;i++){
            int visi = (1 << i);
            if(420 - A[i] >=0)
                ans = max(ans,solve(i,420 - A[i],visi)+1);
        }

        cout << ans << endl;

    }

}
```