```
#include <iostream.h>
#define maxn 200
#define maxM 10000
int f[maxn][maxM], a[maxn], n, M, result[maxn];
void input(int a[], int &n, int &M)
{
        FILE *f;
        f=fopen("knapsack1.inp","rt");
    fscanf(f,"%d%d",&n,&M);
        for(int i=1;i<=n;i++)
        fscanf(f,"%d",&a[i]);
        fclose(f);
}

int max(int a, int b)
{
    return (a>b)?a:b;
}

void createtable(int f[][maxM], int a[], int n, int M)
{
    for(int i=1;i<=M;i++)
        if(i>=a[1])
                f[1][i]=a[1];
        else
                f[1][i]=0;
    for(int i=2;i<=n;i++)
    for(int j=1;j<=M;j++)
        if(j>=a[i])
            f[i][j]=max(f[i-1][j-a[i]]+a[i], f[i-1][j]);
        else
             f[i][j]=f[i-1][j];
}

void reftable(int f[][maxM], int a[], int n, int M)
{
        int max_values=0;
    int K=n, V=M;
    memset(result,0,sizeof(result));
    do
        {
                while (f[K][V]==f[K-1][V]) K--;
                result[K]=1;
                V=f[K][V]-a[K];
                max_values+=a[K];
    }
        while(V>0);
    cout<<"result: "<<max_values<<": "<<endl;
    for(int i=1;i<=n;i++)
    if(result[i])
```

```
                cout<<i<<" ";//a[i]
        cout<<endl;
}

int main()
{
    input(a,n,M);
    createtable(f,a,n,M);
    reftable(f,a,n,M);
    return 0;
}
/*
knapsack1.inp
5 12
6  1  8  7  1
*/
```