KNAPSACK PROBLEM

#include <bits/stdc++.h>

using namespace std;

int main() {

int n, W;

cin >> n >> W;

vector<pair<int,int>> items(n);

for (int i = 0; i < n; i++) cin >> items[i].first >> items[i].second;

sort(items.begin(), items.end(), [](auto &a, auto &b) {

return (double)a.second/a.first > (double)b.second/b.first;

});

double value = 0;

for (auto &it : items) {

if (W >= it.first) {

W -= it.first;

value += it.second;

} else {

value += (double)it.second \* W / it.first;

break;

}

}

cout << value;

}

