

```

1  #include <fstream>
2  #include <cstdlib>
3  #include <ctime>
4  #include <iostream>
5
6  int main()
7  {
8      int numberItems = 0, knapsackCapacity = 0, itemName, itemValue,
        itemWeight;          //Creating variables
9
10     srand(time(NULL));
        //Ensuring Random Numbers Changed
11
12     //Create File
13     std::ofstream file;
14     file.open ("jouleFile.txt");
15
16     while(numberItems <= 0 || knapsackCapacity <= 0){
17         //Number of Items & Knapsack Capacity
18         std::cout << "Number of Items:
                ";          //Gathering Number of Items
19         std::cin >> numberItems;
20         std::cout << "Knapsack Capacity:
                ";          //Gathering Knapsack Capacity
21         std::cin >> knapsackCapacity;
22     }
23
24     file << numberItems << " " << knapsackCapacity << "\n";
        //Input Information
25
26     //Item, Item Value, and Item Weight
27     for(int i = 0; i < numberItems; i++)
28     {
29         itemName = i + 1;
        //Setting Item Number
30         itemValue = rand()%(176) + 25;
        //Allowing for between 25 and 200 in item value
31         itemWeight = rand()%(3*numberItems) + 1;
        //Allowing for weights between 1 and 3 * numberItems
32         file << itemName << " " << itemValue << " " << itemWeight << std::endl;
        //Input Information
33     }
34
35     //Close File
36     file.close();
37
38     return 0;
39 }

```