Play with coins

locked

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You have coins of different demoninations with you. You have to give a fixed amount to the shopkeeper. Use greedy approach to solve this problem. And make yourself familiar with why greedy solution does not always give you optimal answer (i.e. minimum number of coins to be used).

Input Format

First line contains number ***n*** which represents number of unique denominations that you have.

Next ***n*** lines contain, two numbers each separated by space. First number in each line represents the denomination and second number represents the number of coins you have in that denomination.

Last line contains a number which represents the amount that you have to give to the shopkeeper.

Constraints

1 <= unique denominations (***n***) <= 100

1 <= denomination <= 1000

0 <= number of coins in each denomination <= 100

1 <= amount to give to the shopkeeper <= 100000

Output Format

If its not possible to give shopkeeper the exact amount, then output -1.

Otherwise, First line in the output should contain number of unique denominations to be given to the shopkeeper (***m***)

Next ***m*** lines should contain two numbers each separated by space. First number in each line would represent the denomination and second number would represent the number of coins you have to give to the shopkeeper in that denomination. Denominations should be in decreasing order in the output.

Sample Input 0

```
8
500 5
200 10
100 20
50 40
20 80
10 100
5 5
1 1
2736
```

Sample Output 0

```
6
500 5
200 1
20 1
10 1
5 1
1 1
```

Sample Input 1

```
8
500 5
200 10
100 20
50 40
20 80
10 100
5 5
1 1
2737
```

Sample Output 1

```
-1
```

Sample Input 2

```
8
50 40
20 80
10 100
500 5
200 10
100 20
5 5
1 1
4000
```

Sample Output 2

```
3
500 5
200 7
100 1
```

Sample Input 3

```
7
100 6
50 40
200 7
20 80
10 100
5 5
1 3
3333
```

Sample Output 3

```
6
```

```
200 7
100 6
50 26
20 1
10 1
1 3
```

Submissions:

137

Max Score:

10

Difficulty:

Medium

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```
1
#include <cmath>
2
#include <cstdio>
3
#include <vector>
4
#include <iostream>
5
#include <algorithm>
6
using namespace std;
7

8

9
int main() {
10
```

```
    /* Enter your code here. Read input from STDIN. Print output to
STDOUT */
11
    return 0;
12
}
13
```

Line: 1 Col: 1