3. Burning Down the Disc

Program Name: Burn.java Input File: burn.dat

Steve is burning a CD of his favorite music. The problem is that every time he tries to burn a CD, the songs he wants to put on the CD take up more space than is available. Since Steve values all the songs equally (otherwise he wouldn't want to put them on the CD), his goal is to fill the CD with as many minutes of music as possible.

Write a program that will tell Steve which songs to put on the CD so he will have the least number of minutes wasted. No song is to be placed on the CD more than once. It is possible that none of the songs will fit on the CD.

Input

- The first line will contain a single integer `n` that indicates the number of data sets to follow.
- Each data set will consist of three lines.
  - The first line of each data set will be a single integer `c` that indicates the capacity, in minutes, available on the CD for this data set. Each data set has only a single CD.
  - The second line of each data set will be a single integer `m` that indicates how many different songs Steve is considering to put on this CD.
  - The third line of each data set will be `m` integers, separated by spaces, that indicate how long each song is in minutes.

Output

- Each data set will have a single optimum solution that results in the least amount of wasted space on the CD. For each data set, output a single line that contains the following:
  - The line will start with "`CD <num>:` " where `<num>` is the data set number.
  - The next value in the line is an integer that indicates how much space is unused on the CD for the optimum solution, followed by a single space.
  - The rest of the line will contain the length in minutes of the songs to put on the CD in ascending order and separated by a space.

Example Input File

```
3
50
6
40 30 22 22 10 5
24
5
30 40 35 30 25
50
10
40 60 22 15 51 22 5 55 32 70
```

Example Output To Screen

```
CD 1: 0 10 40
CD 2: 24
CD 3: 1 5 22 22
```