6. Making the Grade

Program Name: Grade.java Input File: grade.dat

Many students stress about their grade, as the final exam gets closer. *What do I need to make to pass this class?* Write a program to determine the minimum grade a student needs to make on their final test to finish the class with an A, B, or C.

The grade formula for G, a student's grade in a course is:

Homework Percent*Homework Average + Quiz Percent*Quiz Average + Test Percent*Test Grade = G

The letter grade assigned is as follows: **A** ($90 \leq G \leq 100$), **B** ($80 \leq G < 90$), **C** ($70 \leq G < 80$).

Homework average is the average of the student's homework scores and quiz average is the average of the students quiz score. Homework and quiz averages are computed as floating point numbers. A student's final exam score must be between 0 and 100 inclusive.

Input

- The first line will contain a single integer N that indicates the number of data sets.
- Each data set will consist of exactly 4 lines.
- Line 1 will be the name of the student.
- Line 2 will be the 3 percentages Homework, Quiz, and Test, respectively, used to calculate the final grade for the class. These will be integers all greater than or equal to zero and the sum of the integers shall equal 100.
- Line 3 will be the Homework grade(s) of the student. There will be at least one. All homework grades will be greater than or equal to 0 and less than or equal to 100.
- Line 4 will be the Quiz grade(s) of the student. There will be at least one. All quiz grades will be greater than or equal to 0 and less than or equal to 100.
- spaces separate the integer values in the input file

Output

For each data set display the name of the student on a single line. Then print out 3 lines with the desired grade, a tab, then the minimum grade needed on the final test to achieve the corresponding letter grade. If it is not possible to earn that letter grade then print out SORRY. When printing the necessary grade round any fractional scores up to the next integer. For example, if a student needs a 72.01 on the final test print the required score as 73.

Example Input File:

```
3
Alex
30 30 40
100 100
100 100
Stacy
25 25 50
70 80 90
60 75 90
Susan
40 40 20
100 100 100 100 99
100 100 100 100 100 99
```

Example Output To Screen

```
Alex
A  75
B  50
C  25
Stacy
A  SORRY
B  83
C  63
Susan
A  51
B  1
C  0
```

6. Making the Grade

Program Name: Grade.java **Input File: grade.dat**

Judges Input File

```
10
Alex
30 30 40
100 100
100 100
Stacy
25 25 50
70 80 90
60 75 90
Susan
40 40 20
100 100 100 100 99
100 100 100 100 100 99
Ryan
25 35 40
65 83 90 24
84 34 50 100 100
Zach
90 5 5
30 34 100
56 67 78
Ashley
45 45 10
100 100
100 100 100
Joe
40 30 30
100 100
100
Mike
20 20 60
0 0 0 0
0 0 0 0 0 0 0 0
Mean
0 0 100
100 100 100
100 100 100 100 100 100
AnotherMean
5 5 90
0 0 0 0 0
0 0 0 0 0 0 0 0
```

Judges Output to Screen

```
Alex
A   75
B   50
C   25
Stacy
A   SORRY
B   83
C   63
Susan
```