**9. Fetch Me A Shrubbery!**

**Program Name: shrubbery.java Input File: shrubbery.dat**

The Knights Who Say Ni have asked Sir Arthur to fetch them a shrubbery. He has given many qualifications. The Head of the Knights Who Say Ni have asked for a shrubbery that looks nice, and is not too expensive, and is as large as possible. There are many, many shrubberies in the world, and Sir Arthur doesn’t have time to browse all of them.

Given the database of shrubberies, sort them based upon Sir Arthurs Request.

Remember he wants the LARGEST size, the SMALLEST price, and the LARGEST nice value.

Input

An integer N representing the number of data sets to follow. Each data set will have an integer Q representing the number of shrubberies to follow. Each shrubbery listing will have a string name followed by an integer rating of niceness, a decimal price, and decimal representing volume. At the end of the Q lines will be either the word “NICE”, “PRICE”, “SIZE” based upon which ever Sir Arthur is requesting.

Output

The shrubberies, by name, in order specified by Sir Arthur.

**Assumptions**

Sir Arthur can only request for shrubberies by size, price, or nice-ness. The number of shrubberies will not exceed 100. Decimal numbers will have no more than 5 digits after the decimal. There should be an empty line between data sets.

Example Input File

6

3

Shrub1 4 5.0 7

Shrub2 5 6 6.2

Shrub3 1 7 5

SIZE

3

Shrub4 4 5 7

Shrub5 5 6 6

Shrub6 1 7 5

PRICE

3

Shrub7 4 5 7

Shrub8 5 6 6

Shrub9 1 7 5

NICE

Example Output To Screen

Shrub1

Shrub2

Shrub3

Shrub4

Shrub5

Shrub6

Shrub8

Shrub7

Shrub9