5. Family Tree

Program Name: Family.java Input File: family.dat

You feel compelled to write a program that can read in a text file containing a list of relationships and parse that data into a family tree. For now you are happy with a first pass that can print out generational information to a console. Later on, however, you will want to expand on this and create a graphical representation for the tree.

Input

The input file will contain an unknown number of lines. Each line will contain 3 words separated by a space: the source name, the description noun, and the destination name. The description noun describes how the source is related to the destination. The nouns can be:

- MOTHER
- FATHER
- DAUGHTER
- SON
- SISTER
- BROTHER
- WIFE
- HUSBAND

Everybody in the tree will have a unique name, and the family tree is guaranteed to be legal in all 50 states. It is possible for the same person to show up multiple times in the input file, but the same relationship between two people will only show up once. You can also assume that any two people in the tree have a path that joins them and marriage occurs on the same generation.

Output

The output is a generation per line that contains the generation count and the names of every member of that generation in alphabetical order, as shown below.

Example Input File

```
Bob SON Mary
Josephus HUSBAND Mary
Brutus FATHER Mary
Vicky MOTHER Mary
Josephus SON Gary
Matilda MOTHER Josephus
```

Example Output to Screen

```
1st Generation: Brutus Gary Matilda Vicky
2nd Generation: Josephus Mary
3rd Generation: Bob
```