



## Problem: Week 3 - Family Tree

### Description

Given a family tree represented by child-parent (c,p) relations in which c is a child of p. Perform queries about the family tree:

- descendants <name>: return number of descendants of the given <name>
- generation <name>: return the number of generations of the descendants of the given <name>

Note that: the total number of people in the family is less than or equal to  $10^4$

### Input

Contains two blocks. The first block contains information about child-parent, including lines (terminated by a line containing \*\*\*), each line contains: <child> <parent> where <child> is a string represented the name of the child and <parent> is a string represented the name of the parent. The second block contains lines (terminated by a line containing \*\*\*), each line contains two string <cmd> and <param> where <cmd> is the command (which can be descendants or generation) and <param> is the given name of the person participating in the query.

### Output

Each line is the result of a corresponding query.

### Example

**Input**

```
Peter Newman
Michael Thomas
John David
Paul Mark
Stephan Mark
Pierre Thomas
Mark Newman
Bill David
David Newman
Thomas Mark
***
descendants Newman
descendants Mark
descendants David
generation Mark
***
```

**Output**

```
10
5
2
2
```

**Sample TestCase**

C 17



1 Write your Source code here

## Source code

C 17



```
1 //C
2 #include <stdio.h>
3
4 int main()
5 {
6
7 }
```

SUBMIT CODE

Currently, this contest problem is not open for submissions

Or

C 17

Select file

SUBMIT

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Tìm kiếm

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ID	Bài tập	Trạng thái	Message	Điểm	Ngôn ngữ
<a href="#">cacc2f</a>	FAMILY_TREE	Accept	<div>i</div>	100	PYTHON3

5 hàng

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