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Problem: Week 8 - Citizen Data Analysis

Description

CITIZEN

Given a DataBase about citizen, perform queries over this DataBase.

Input

The input consists of two blocks: the first block is the DataBase and the second block is the list of queries. Two blocks are separated by a line containing a character *.

1. The first block (DataBase about citizen) consists of lines (number of lines can be upto 100000), each line is the information about a person and is under the format:

in which:

- <code>: the code of the person which is a string of length 7
- <date_of_birth>: the date of birth of the person and has the format YYYY-MM-DD (for example 1980-02-23), <date_of_birth> is before 3000-12-31
- <fathher_code> and <mother_code> is the code of father and mother: they are also strings of length 7. If the code is 0000000, then the current person does not has information about his father or mother
- <is_alive>: a character with two values: 'Y' means that the person is still alive, and 'N' means tat the current person is died.

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- <region_code>: the code of the region where the person lives
- 2. The second block is the list of queries (number of queries can be upto 100000) over the DataBase which consists of following commands:
- NUMBER_PEOPLE: return the number of people (number of lines of the DataBase)
- NUMBER_PEOPLE_BORN_AT <date>: return the number of people having date-of-birth is equal to <date>
- MOST_ALIVE_ANCESTOR <code>: find the most ancestor (farthest in term of generation distance) of the given person <code>. Return the generation distance between the ancestor found and the given person
- NUMBER_PEOPLE_BORN_BETWEEN <from_date> <to_date>: compute the number of people having date-of-birth between <from_date> and <to_date> (<from_date> and <to_date> are under the form YYYY-MM-DD, <to_date> is before 3000-12-31)
- MAX_UNRELATED_PEOPLE: find a subset of people in which two any people of the subset do not have father/mother-children and the size of the subset is maximal. Return the size of the subset found.

The second block is terminated by a line containing ***.

Output

• Each line presents the result of the corresponding query (described above).

Example

Input

0000001 1920-08-10 0000000 0000000 Y 00002

0000002 1920-11-03 0000000 0000000 Y 00003

0000003 1948-02-13 0000001 0000002 Y 00005

0000004 1946-01-16 0000001 0000002 Y 00005

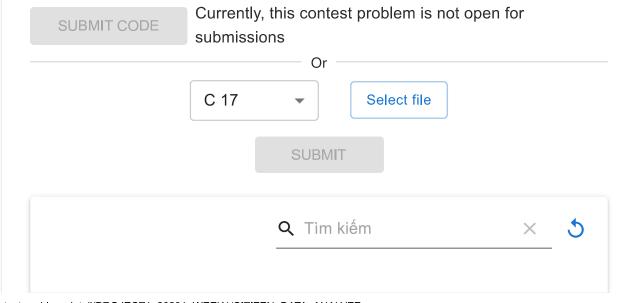
0000005 1920-11-27 0000000 0000000 Y 00005 0000006 1920-02-29 0000000 0000000 Y 00004 0000007 1948-07-18 0000005 0000006 Y 00005 0000008 1948-07-18 0000005 0000006 Y 00002 0000009 1920-03-09 0000000 0000000 Y 00005 0000010 1920-10-16 0000000 0000000 Y 00005 NUMBER_PEOPLE NUMBER_PEOPLE_BORN_AT 1919-12-10 NUMBER_PEOPLE_BORN_AT 1948-07-18 MAX_UNRELATED_PEOPLE MOST_ALIVE_ANCESTOR 0000008 MOST_ALIVE_ANCESTOR 0000001 NUMBER_PEOPLE_BORN_BETWEEN 1900-12-19 1928-11-16 NUMBER_PEOPLE_BORN_BETWEEN 1944-08-13 1977-12-15 NUMBER_PEOPLE_BORN_BETWEEN 1987-01-24 1988-06-03 *** **Output** 10 0 2 6

0 Sample TestCase C 17 Write your Source code here Source code C 17 2 #include <stdio.h>

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3
4 int main()
5 {
6
7 }
```



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ID	Bài tập	Trạng thái	Message	Điểm
<u>80531e</u>	CITIZEN_DATA_ANALYZE	Accept	•	250
<u>4edac1</u>	CITIZEN_DATA_ANALYZE	Failed	•	0
<u>57ac25</u>	CITIZEN_DATA_ANALYZE	Failed	•	0
<u>0a60fa</u>	CITIZEN_DATA_ANALYZE	Failed	•	0
<u>1a27f9</u>	CITIZEN_DATA_ANALYZE	Failed	•	0
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