# Problem 9 – Road Rage

You are given some records from **security cameras** on the road. Each camera keeps track of the time when some vehicle passes through its field of view. Find if any vehicles are speeding. A car is speeding if its average speed between two neighbour cameras is at least 5% above the speed limit.

## Input

* The input is read from the console.
* On the first line there is the single word **Roads:**
* The next few lines contain pairs of camera names, the distances between them and the maximum allowed speed (in km/h) between them. All camera names contain only letters and digits. The camera names and maximum speed are separated by a single space. Example:

**CameraA CameraB 100.23 50**

* On the next line there is the single word **Records:**
* The next few lines contain some camera records. Each record consist of a license plate number, a single space and a time in 24-hour format. The license plate numbers contain only letters and digits. Example:

**CA1111AA 12:56:12**

* The last line contains the word **End** only.
* All license plates are valid. There is no need to check this explicitly.

## Output

* Print all speeding vehicles in order of recording. For each vehicle, print its license plate, the first and second camera which caught it speeding, the average speed and the percentage above speed limit. Round the average speed and percentage to two places after the decimal point. Example:

**CA1111AA CameraA CameraB 56.30 13%**

## Constraints

* The distances and speed limits are 32-bit floating point numbers.
* The number of cameras is in the interval [1; 10000].
* The number of records is in the interval [1; 100000].
* All data is collected in a single day.
* There will always be at least one speeding car.
* There will be only one pair of cameras in a single segment of the map (i.e., the camera pairs are unique).
* Time limit: **100 ms**. Allowed memory: **16 MB**.

## Sample Input and Output TODO

|  |  |
| --- | --- |
| **Input** | **Output** |
| Roads:  Sofia Plovdiv 145.4 90  Plovdiv Varna 361.4 120.5  Varna Burgas 114.9 20  Burgas Plovdiv 252.9 42  Records:  CA1234AC Sofia 12:39:25  CA1234AC Plovdiv 13:40:12  CA1234AC Burgas 17:52:40  End | CA1234AC Plovdiv Burgas 48.56 15.62% |