Input:

{monitor_period} /*this is the first line of the input.*/

//define the patient

patient {patient_name} {patient_period}

//define the devices attached to the patient (5 parameters in one line separated with space).

{device_category} {device_name} {factor_dataset_file} {safe_range_lower_bound} {safe_range_upper_bound}/*the {device_name} is attached to {patient_name}*/

…

factorDataset format:

value //A factor value that should be read by device

... // many many line

factorDatabase format:

/*

factorDatabase must be shown with following rules:

1.patient should be shown with the sequential order from input.
2.device should be shown with the sequential order from input.
*/

patient {patient_name}

{device_category} {device_name}

{[millisecond from system start to monitor]} {read_factor_value}

…

Output:

/*

If two alarm messages are to appear on the same time stamp, they should be displayed in the order of which patient and device were inputted first.

*/

//the following output is in one line separated with space

{[millisecond from system start to monitor]} {patient_name} is in danger! Cause: {device_name} {out_of_range_value} /*if read factors exceed the safe ranges */

//the following output is in one line separated with space

{[millisecond from system start to monitor]} {device_name} falls /*if factor read from device is -1 or end-of-file, it means device fell */

...

display factorDatabase /*You must show factorDatabase contents after system finish monitoring. The factorDatabase contents would display at bottom of output.*/

Comment:

The first data read from factorDataset should have timestamp 0.

The unit of {monitor_period} is millisecond.

The unit of {patient_period} is millisecond.

Both {safe_range_lower_bound} and {safe_range_upper_bound} are inclusive.

device_category:

PulseSensor

BloodPressureSensor

TemperatureSensor

You should read the input and factorDataset from file. And show output to standard output.

After you reach end-of-file in input file, system starts to monitor. While system starts to monitor, the timestamp is 0. System finish monitoring when the timestamp reach {monitor_period}. All devices attached to patients start to measure the patients'vital factors at timestamp 0.

You can use for-loop counter as millisecond timestamp.

There will be one value each line in the factorDataset file.

If you read -1 or end-of-file, it means device falls. If device falls, the value stored in database is -1.

A way to read input from System.in:

```
BufferedReader reader = new BufferedReader(new
InputStreamReader(System.in));

String line = reader.readLine();
```

A way to read data from file:

```
File fakeDataFile = new File("name of the fake data");

BufferedReader reader = new BufferedReader(new
FileReader(fakeDataFile));

String line = reader.readLine();
```

You are asked to write a main function in Class Quiz.

We'll compile your program with "javac *.java" under your source code directory.

*** Make sure you didn't use package in your code, which is very likely to happen if you're implementing with IDE.

We'll test your program with "java Quiz inputFile"

e.g. java Quiz sampleInput

Please zip your source code and upload it.

The file name should be [StudentID].zip. e.g. r05922096.zip

The folder structure should be:

unzip r05922096.zip

=> [dir] r05922096

=> r05922096/*.java

BloodPressureData1.dataset Sample:

150
123
-1
200
-1

sampleInput:

3000
patient Mark 600
BloodPressureSensor sensor1 BloodPressureData1.dataset 150 200
patient Tony 500
BloodPressureSensor sensor2 BloodPressureData1.dataset 130 150

sampleOutput:

[500] Tony is in danger! Cause: sensor2 123.0
[600] Mark is in danger! Cause: sensor1 123.0
[1000] sensor2 falls
[1200] sensor1 falls
[1500] Tony is in danger! Cause: sensor2 200.0
[2000] sensor2 falls
[2400] sensor1 falls
[2500] sensor2 falls
[3000] sensor1 falls
[3000] sensor2 falls
patient Mark
BloodPressureSensor sensor1
[0] 150.0
[600] 123.0
[1200] -1.0
[1800] 200.0
[2400] -1.0

[3000] -1.0
patient Tony
BloodPressureSensor sensor2
[0] 150.0
[500] 123.0
[1000] -1.0
[1500] 200.0
[2000] -1.0
[2500] -1.0
[3000] -1.0