# 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 the system starts to monitor]} {read_factor_value}

…

# Output:

// If an input command is incorrect, ignore the command and output

Input Error

/*

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

*/

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

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

...

display factorDatabase /*You must show factorDatabase contents after the system finishes monitoring. The factorDatabase contents would display at the 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 finishes monitoring when the timestamp reaches {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 fails. If device fails, 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();
```

---

Write a main function in Class Quiz.

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

*** Make sure you won't use package in your code, which is very likely to happen if you program with an 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 fails
[1200] sensor1 fails
[1500] Tony is in danger! Cause: sensor2 200.0
[2000] sensor2 fails
[2400] sensor1 fails
[2500] sensor2 fails
[3000] sensor1 fails
[3000] sensor2 fails
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