**Project 3: Emergency Room Triage**
**Due: 11:59 pm 5/22/19**
**Total Points: 10**
**Extra Points: None**
Projects must be submitted on BlackBoard as a ZIPPED FOLDER with the folder name as Z{8 Digit CUNY ID} *for example* your student id is 12345678 than the folder name is Z12345678

Within the folder will only be source code, NO .class files. The files in the folder will be:

1) Z12345678.java
2) *Any other java files you created for this project*

Any projects submitted that **DOES NOT** have this naming convention will not be graded.
If you do not submit anything, you will receive 1 point for the project. Any projects that **do not compile or work** will receive a 0. Excuses such as "It compiles on my computer" or "It worked last time" will not be accepted. Your program must work on all machines not just yours.

If you are using an IDE such as eclipse, before submitting, remove all package statements from all files.

**Late penalty No late assignment will be accepted for this project.**

**Cheating** Any one caught cheating, copying code or letting others copy, will receive a 0 and reported. Collaborating with others is encourage on a high level, but code and implementation should never be shared.

**Project Specs:**
**You have been hired by a Director of Medicine at New York Presbyterian. She want you to implement an software that allows the ER nurses and staff to submit information about a patient and the algorithms in the software will return a triage level.**

**This project should run on terminal with command line arguments**
**( https://docs.oracle.com/javase/tutorial/essential/environment/cmdLineArgs.html)**
MacBook-Pro:~ Alex$ java Z12345678 patient.txt cardiac.txt cancer.txt neuro.txt

You are given 4 text files:

1) Patient.txt
    a) A list of patients that enter the ER, there are 15 patients
    b) Each line is a different patient, each attribute is comma separated
    c) The format is in the following order:
        i) Name
        ii) Age
        iii) Gender
        iv) Complaint
        v) Alertness Level
        vi) Heart Rate
        vii) Blood Pressure
        viii) Respiration Rate
        ix) Temperature
        x) Oxygen Saturation
        xi) Pain Level

xii) Remaining items is a list of medications taking

2) Cardiac.txt
    a) A list of different common cardiac medication
    b) If the patient is taking any of these medications, assign them a cardiologist
3) Cancer.txt
    a) A list of different common cancer treatment or pain management
    b) If the patient is taking any of these medications, assign them a oncologist
4) Neuro.txt
    a) A list of different common neurological medication
    b) If the patient is taking any of these medications, assign them a neurologist

Your program should write a file for each patient. The name for these files should be the number at which the are seen by the doctor in the ER. So there should be 15 files and the names of the files should be from 1- 15. For example, 1.txt is the first patient to been seen by the doctor in the ER, that person is the first person that came in with the highest triage level. 15.txt is the last patient to be seen by the doctor, this person that the lowest triage level.
Each file should have the following information:

- Patient name
- Age, Gender, Complaint
- Triage Level
- Doctor assigned {cardiologist, oncologist, neurologist}, if no doctor assigned used 'N/A'
- Time spent waiting (ms)
- Vital Sign Assessment
    - HR: Bradycardia/Tachycardia/Normal
    - BP: Hypotension/Hypertension/Normal
    - RR: Bradypnea/ Tachypnea/ Normal
    - Temperature : Yes/no (Fever)
    - SO2: Low/Normal
- List of medication

**Example 1.txt**
Morris Love
46, Male, Chest Pain
1
Cardiologist
1202ms
153 Tachycardia
150/45 Hypertension
26 tachypnea
96.1 No
85% Low
Warfarin, Aspirin, Amlodipine, Diltiazem

Reading Vital Signs:
**Heart Rate HR:**

- Normal Heart Rate is 60 to 100 bpm(beats per minute).
- Bradycardia is low heart rate, HR < 60
- Tachycardia is high heart rate, HR>100
- A sign of Cardiac Arrest (Heart Attack) is HR > 150 or HR < 30

**Blood Pressure (BP):**

- Normal BP is 120/80.
- Top number is systolic pressure, bottom number is diastolic pressure
- Hypertension is high blood pressure defined as systolic > 140 or diastolic > 90
- Hypotension is low blood pressure defined as systolic > 90 or diastolic > 60

**Respiratory Rate (RR):**

- Normal RR is 16 - 20
- Bradypnea is low respiration rate, RR < 16
- Tachypnea is high respiration rate, RR > 20

**Body Temperature:**

- Normal body temperature 98.6
- Fever is a body temperature > 99

**Blood Oxygen Saturation (SO2):**

- The measure of the concentration of oxygen the blood is carrying
- Normal SO2 levels are from 95% to 100%
- Low levels of SO2 < 95%
- Danger Zone for this is a SO2 < 90%

**Alertness Level:**

- A : Alert
    - Patient is alert, awake, and responsive
    - Fully Aware of time and current location
- V : Verbal
    - Patient is responsive to only verbal cues.
    - Not fully aware of time and location
- P : Pain
    - Patient only responds to painful stimulus and not verbal commands
- U : Unresponsive
    - Patient is unresponsive to all stimulus verbal or physical

**Triage Levels:**

**Level 1:**

- **Cardiac Arrest**
- **Body temperature over 105**
- **SO2 < 90%**
- **RR < 6**
- **Hypotensive**
- **Alertness Level : U**

**Level 2:**

- **Alertness Level : P V**
- **SO2 < 95 and >90**
- **HR is Tachy or Brady**
- **RR is Tachy or Brady**
- **Hypertensive**

**Level 3:**

- **Alertness Level: A**
- **HR +/- 10 from normal (50-110)**
- **BB is normal range**
- **Body temperature is normal range**
- **BP is in normal range**
- **SO2 is in normal range**
- **RR is in normal range**