*/\*\*  
 \* This program simulates a triage center with a patient que containing heart, gastro, and bleeding patients.  
 \* Every 20 minutes a new patient enters the que. If patients do not receive treatment in time they will die.  
 \* Every 60 minutes the doctor helps a new batch of patients. This simulation will run for 100 hours.  
 \*/***import** java.util.ArrayList;  
**public class** Triage {  
 *//Statistic variables* **static int** *gastroDead* = 0;  
 **static int** *cardioDead* = 0;  
 **static int** *bleedDead* = 0;  
 **static int** *gastroHelp* = 0;  
 **static int** *cardioHelp* = 0;  
 **static int** *bleedHelp* = 0;  
 **static int** *gastroWait* = 0;  
 **static int** *cardioWait* = 0;  
 **static int** *bleedWait* = 0;  
 *//Printing variables* **static int** *z* = 1;  
 **static int** *y* = 1;  
 **static int** *v* = 1;  
  
  
  
 **public static void** main(String args[]) {*//Start of main* ArrayList waitList = **new** ArrayList<Patient>();*//Create Que* **int** time = 0;*//Start the clock* **for** (time = 0; time <= 6000; time++) {*//Timer is set for 100 hours* **if** ((time % 20) == 0) {*//New patient every 20 min* waitList.add(**new** Patient());  
 }  
 *//Sort Que* waitList = *sortCardio*(waitList);  
 waitList = *sortBleeders*(waitList);  
 waitList = *sortGastro*(waitList);  
  
 **if** ((time % 60) == 0){*//Help patients very hour* waitList = *help*(waitList);  
 }  
  
 }*//End of 100 hours  
  
 //Print Statistics* System.***out***.println(**"\nHeart patients helped: "**+ *cardioHelp*);  
 System.***out***.println(**"Heart patients avg. wait: "**+ (*cardioWait*/*cardioHelp*));  
 System.***out***.println(**"Heart patients dead: "**+ *cardioDead*);  
 System.***out***.println(**"Gastro patients helped: "**+ *gastroHelp*);  
 System.***out***.println(**"Gastro patients avg. wait: "**+ (*gastroWait*/*gastroHelp*));  
 System.***out***.println(**"Gastro patients dead: "**+ *gastroDead*);  
 System.***out***.println(**"Bleeding patients helped: "**+ *bleedHelp*);  
 System.***out***.println(**"Bleeding patients avg. wait: "**+ (*bleedWait*/*bleedHelp*));  
 System.***out***.println(**"Bleeding patients dead: "**+ *bleedDead*);  
  
  
 }*//End of main* **public static** ArrayList sortCardio(ArrayList<Patient> a) {  
  
 **for** (**int** i = 0; i < a.size(); i++) {*//scan que* Patient c = a.get(i);  
 **if** (c.**type** == 3) {*//move all cardio to end* a.remove(i);  
 c.**waited**++;  
 a.add(c);  
 }  
 }*//end scan* **return** a;  
 }*//end of sortCardio* **public static** ArrayList sortGastro(ArrayList<Patient> a) {  
  
 **for** (**int** i = 0; i < a.size(); i++) {*//scan que* Patient c = a.get(i);  
 **if** (c.**type** == 2) {*//move all gastro to end* a.remove(i);  
 c.**waited**++;  
 a.add(c);  
 }  
 }*//end scan* **return** a;  
 }*//end of sortGastro* **public static** ArrayList sortBleeders(ArrayList<Patient> a) {  
  
 **for** (**int** i = 0; i < a.size(); i++) {*//scan que* Patient c = a.get(i);  
 **if** (c.**type** == 1) {*//move all bleeders to end* a.remove(i);  
 c.**waited**++;  
 a.add(c);  
 }  
 }*//end scan* **return** a;  
 }*//end of sortBleeders* **public static** ArrayList help(ArrayList<Patient> a) {  
  
 *//help counters* **int** one = 0;  
 **int** two = 0;  
 **int** three = 0;  
  
 **for** (**int** i = 0; i < a.size(); i++) {*//Start of que* Patient c = a.get(i);  
  
 **if** ((c.**type** == 3) && (one < 4)) {*//help cardio* **if** (c.**waited** >= c.**death**) {*//check if dead* a.remove(i);  
  
 *cardioDead*++;  
  
 i--;  
 **if**(*y*<= 4){  
 System.***out***.println(**"Cardio patient died"**);  
 *y*++;  
 }  
  
 } **else** {*// if not dead help* a.remove(i);  
  
 one++;  
  
 i--;  
  
 *cardioHelp*++;  
  
 *cardioWait* = *cardioWait* + c.**waited**;  
 **if**(*v*<= 4){  
 System.***out***.println(**"Cardio patient helped"**);  
 *v*++;  
 }  
  
 }  
  
 }*//end of help cardio* **else if** ((c.**type** == 2) && (two < 8)) {*//help gastro* **if** (c.**waited** >= c.**death**) {*//check if dead* a.remove(i);  
  
 *gastroDead*++;  
  
 i--;  
 **if**(*y*<= 4){  
 System.***out***.println(**"Gastro patient died"**);  
 *y*++;  
 }  
  
 } **else** {*// if not dead help* a.remove(i);  
  
 i--;  
  
 two++;  
  
 *gastroHelp*++;  
  
 *gastroWait* = *gastroWait* + c.**waited**;  
 **if**(*v*<= 4){  
 System.***out***.println(**"Gastro patient helped"**);  
 *v*++;  
 }  
  
 }  
  
 }*//end of help gastro* **else if** ((c.**type** == 1) && (three < 12)){*//help bleeders* **if** (c.**waited** >= c.**death**) {*//check if dead* a.remove(i);  
  
 *bleedDead*++;  
  
 i--;  
 **if**(*y*<= 4){  
 System.***out***.println(**"Bleeder patient died"**);  
 *y*++;  
 }  
  
 } **else** {*// if not dead help* a.remove(i);  
  
 i--;  
  
 three++;  
  
 *bleedHelp*++;  
  
 *bleedWait* = *bleedWait* + c.**waited**;  
 **if**(*v*<= 4){  
 System.***out***.println(**"Cardio patient helped"**);  
 *v*++;  
 }  
  
 }  
 }*//end of help bleeders* }*//End of que* **return** a;  
 }*//end of help* **static class** Patient {*//Start of patient class  
 //Patient Statistics* **private int type**, **death**;  
 **private int waited** = 0;  
  
  
 **public** Patient() {*//Start of patient constructor* **type** = getType();  
 **death** = getDeath();  
 }*//end of patient constructor* **public int** getType() {*//Patient type generator* **double** ran = genRandNum(1, 100);  
 **if**((*z*<=10)&&(*z*!=0)) {  
 System.***out***.println(**"Patient "**+*z*+**" created"**);  
 *z*++;  
 }  
 **if** (ran <= 50) {  
 **return** 1;  
 } **else if** (ran <= 70) {  
 **return** 2;  
 } **else** {  
 **return** 3;  
 }  
 }*//end of getType* **public int** getDeath() {*//Get time of death* **double** ran = genRandNum(1, 100);  
  
 **if** (ran <= 34) {*//if one standard deviation from mean* **if** (**type** == 3) {  
 **return** 45;  
 } **else if** (**type** == 1) {  
 **return** 80;  
 } **else** {  
 **return** 110;  
 }  
 } **else if** (ran <= 68) {*//if one standard deviation from mean* **if** (**type** == 3) {  
 **return** 25;  
 } **else if** (**type** == 1) {  
 **return** 40;  
 } **else** {  
 **return** 50;  
 }  
 } **else if** (ran <= 81) {*//if two standard deviation from mean* **if** (**type** == 3) {  
 **return** 55;  
 } **else if** (**type** == 1) {  
 **return** 100;  
 } **else** {  
 **return** 140;  
 }  
 } **else if** (ran <= 94) {*//if two standard deviation from mean* **if** (**type** == 3) {  
 **return** 15;  
 } **else if** (**type** == 1) {  
 **return** 20;  
 } **else** {  
 **return** 20;  
 }  
  
 }  
 **else if** (ran <= 97) {*//if three standard deviation from mean* **if** (**type** == 3) {  
 **return** 65;  
 } **else if** (**type** == 1) {  
 **return** 120;  
 } **else** {  
 **return** 170;  
 }  
 }  
 **else** {*//else is mean* **if** (**type** == 3) {  
 **return** 35;  
 } **else if** (**type** == 1) {  
 **return** 60;  
 } **else** {  
 **return** 80;  
 }  
 }  
 }*//End of getDeath* **public double** genRandNum(**int** Min, **int** Max) {*//Random number generator* **double** a = Math.*random*() \* (Max - Min) + Min;  
 **return** a;  
 }*//End of genRandNum* }*//End of patient class*}*//End of triage class*

"C:\Program Files\Java\jdk-9.0.4\bin\java" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2017.3.3\lib\idea\_rt.jar=60528:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2017.3.3\bin" -Dfile.encoding=UTF-8 -classpath C:\Users\H4V0C\IdeaProjects\Code\out\production\Code Triage

Patient 1 created

Gastro patient helped

Patient 2 created

Patient 3 created

Patient 4 created

Gastro patient helped

Gastro patient died

Gastro patient helped

Patient 5 created

Patient 6 created

Patient 7 created

Cardio patient helped

Patient 8 created

Patient 9 created

Patient 10 created

Cardio patient died

Cardio patient died

Bleeder patient died

Heart patients helped: 56

Heart patients avg. wait: 14

Heart patients dead: 40

Gastro patients helped: 50

Gastro patients avg. wait: 27

Gastro patients dead: 12

Bleeding patients helped: 108

Bleeding patients avg. wait: 21

Bleeding patients dead: 35

Process finished with exit code 0