import java.util.\*;

public class game {

static int points = 1000;

static int roundCounter = 1;

static Scanner console = new Scanner(System.in);

static Random generator = new Random();

static boolean play=true;

public static void startMenu(){

System.out.print("Welcome to the Typing Game\nPress enter to start:");

console.nextLine();

}

public static String generateRandomString(){

char[] charArr = new char[7];

for(int i = 0; i<charArr.length; i++){

int randomCapitalized = generator.nextInt(26)+65;

//System.out.println(i+" randomCap: "+randomCapitalized);

int randomLowerCase = generator.nextInt(26)+97;

//System.out.println(i+" randomLower: "+randomLowerCase);

int randomCharNum = generator.nextInt(2) == 0 ? randomCapitalized : randomLowerCase;

char randomChar = (char)randomCharNum;

charArr[i] = randomChar;

}

//System.out.println(Arrays.toString(charArr));

return String.valueOf(charArr);

}

public static char[] sort(char[] obj){

int[] objArr = new int[obj.length];

for(int i=0; i<obj.length; i++){

objArr[i]=(int)obj[i];

}

Arrays.sort(objArr, 0, obj.length);

//flips to descending order - maybe later for optional game feature

/\*for(int i=0; i<objArr.length/2; i++){

int temp = (int)objArr[i];

objArr[i]=(int)objArr[obj.length-1-i];

objArr[objArr.length-1-i] = temp;

}\*/

char[] output = new char[objArr.length];

for(int i=0; i<obj.length; i++){

output[i]=(char)objArr[i];

}

System.out.println("Objective: " + Arrays.toString(output));

return output;

}

public static int calculateScore(String obj, String input, long time){

if(input==null)

input = "";

//size diff

char[] objArr = sort(obj.toCharArray());

char[] inputArr = input.toCharArray();

int calcSize = inputArr.length>objArr.length ? inputArr.length : objArr.length;

int[] calcArr = new int[calcSize];

//finding diff

if(objArr.length>=inputArr.length){

for(int i=0; i<calcArr.length; i++){

if(i<inputArr.length)

calcArr[i]=Math.abs((int)objArr[i]-(int)inputArr[i]);

else

calcArr[i]=(int)objArr[i];

}

}else{

for(int i=0; i<calcArr.length; i++){

if(i<objArr.length)

calcArr[i]=Math.abs((int)objArr[i]-(int)inputArr[i]);

else

calcArr[i]=(int)inputArr[i];

}

}

System.out.println("Numerical point difference: "+Arrays.toString(calcArr));

int letterPointsDiff = 0;

for (int i : calcArr) {

letterPointsDiff+=i;

}

int output=0;

System.out.println("Points diff: " + letterPointsDiff);

if(time<=12000){

if(letterPointsDiff==0)

output = 500;

else

output = -letterPointsDiff;

} else

output = ((12000-(int)time)-letterPointsDiff);

System.out.println("Time: "+time+"\n"+ "Real Points diff: " + output);

return output;

}

public static int score(String obj){

long startTime = System.currentTimeMillis();

System.out.print("You entered: ");

String input = console.nextLine();

long endTime = System.currentTimeMillis();

long time = endTime-startTime;

return calculateScore(obj, input,time);

}

public static void round(){

String randomStr = generateRandomString();

System.out.println("Your current points is: "+points+", type in order [" + randomStr+"]");

int pointDiff = score(randomStr);

points+=pointDiff;

System.out.println("Your points is now: "+points);

System.out.print("Press enter to continue: ");

console.nextLine();

//System.out.println("Started at "+ startTime + ", Ended at " + endTime);

//System.out.println("You took " + (endTime-startTime));

}

public static void finished(){

System.out.println("--------------------Game Over-----------------------");

if(points<=0){

System.out.println("Sorry, you lost :(");

} else{

System.out.println("Congratulations, you beat the game!");

}

System.out.print("Write \"play\" to try again: ");

String input = console.nextLine();

if(input.equals("play")||input.equals("Play"))

play = true;

else

play = false;

reset();

}

public static void reset(){

points = 1000;

roundCounter = 0;

}

public static void run(){

while(play){

startMenu();

while(points>0&&points<5000){

System.out.println("---------------------Round "+roundCounter+"-------------------------");

round();

roundCounter++;

}

finished();

System.out.println("-----------------------------------------------------");

}

}

public static void main(String[] args) {

run();

}

}

// Start

/\*

\* Game - gameRun - - Score Checker - time - compare tme to when submitted &

\* calculate score

\*/

// Game Over