Matthew Robin HISTOGRAM

public class Histogram {

public double maxLimit;

public double minLimit;

public int numCounters;

public int[] buckets;

Histogram(int numCounters, double maxLimit, double minLimit) {

this.numCounters = numCounters;

this.maxLimit = maxLimit;

this.minLimit = minLimit;

buckets = new int[numCounters];

for (int i = 0; i < numCounters; i++) {

buckets[i] = 0;

}

}

Histogram(double maxLimit, double minLimit) {

numCounters = 10;

this.maxLimit = maxLimit;

this.minLimit = minLimit;

buckets = new int[numCounters];

for (int i = 0; i < numCounters; i++) {

buckets[i] = 0;

}

}

public void add(double x) {

double interval = (maxLimit - minLimit) / numCounters;

int bucket = 0;

double lower = minLimit;

double upper = minLimit + interval;

while (!(lower <= x && x < upper)) {

bucket++;

lower = upper;

upper = upper + interval;

}

buckets[bucket]++;

}

}

import java.util.Random;

public class HistoTester {

public static void main(String[] args) {

Histogram test = new Histogram(10, 0);

Random randomNum = new Random();

for (int i = 0; i < 100000; i++) {

double randomDub = randomNum.nextDouble();

int randomInt = randomNum.nextInt(10);

test.add(randomDub + randomInt);

}

for (int i = 0; i < 9; i++) {

System.out.println(test.buckets[i]);

}

}

}

OUTPUT

run:

9898

10082

9900

10221

10100

9896

9944

10042

10014