import java.util.ArrayList;

import java.util.List;

import java.util.Random;

class Machine {

private int id;

private int clock;

public Machine(int id) {

this.id = id;

this.clock = new Random().nextInt(100); // Initialize clock with random value

}

public int getId() {

return id;

}

public int getClock() {

return clock;

}

public void setClock(int clock) {

this.clock = clock;

}

}

public class BerkeleyAlgorithm {

private List<Machine> machines; public BerkeleyAlgorithm(int

numMachines) {

machines = new ArrayList<>();

for (int i = 0; i < numMachines;i++)

{

machines.add(new Machine(i));

}

}

public void synchronizeClocks()

{

int sum = 0;

for (Machine machine : machines)

{ sum += machine.getClock();

}

int average = sum /

machines.size();

for (Machine machine : machines)

{

machine.setClock(average);} } public void printClocks() {

for (Machine machine : machines)

{

System.out.println("Machine "+ machine.getId() + ": Clock = " + machine.getClock());}}

public static void main(String[] args){

BerkeleyAlgorithm algorithm = new

BerkeleyAlgorithm(5); // Number of machines

System.out.println("Before synchronization:");

algorithm.printClocks(); algorithm.synchronizeClocks();

System.out.println("\nAfter synchronization:");

algorithm.printClocks();

}

}

