An Tran

CSC1302

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**Homework 2**

**Answer:**

import java.util.\*;

public class HW2 {

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

public static void main (String[]arfs) {

giveIntro();

playTime();

}

public static void giveIntro () {

System.out.println ("Human, I will create a hyena or a critter for you.");

}

public static void playTime () {

String choice = "";

System.out.println ("Do you want to create a critter [c] or a hyena [h]?");

Critter h = null;

do {

choice = console.next();

if (choice.equals ("c")) {

h = new Critter ();

}else if (choice.equals ("h")){

h = new Hyena();

}else{

System.out.println ("Wrong choice, please choose again.");

choice = console.next();

}

}while (h == null);

System.out.println ("Let's make them find food");

h.findFood();

}

}

class Critter {

private String pattern;

//constructors

public Critter () {

pattern = "Human, the Critter has not started to find it's food, yet.";

}

// getter methods

public String getPattern () {

return pattern;

}

//other methods

public void findFood () {

pattern = "";

pattern = createPattern();

}

//create pattern for method findFood

public String createPattern () {

System.out.println ("Critter will have random traveling.\n[Enter] to keep finding food, [e] to find and eat food, [s] to stop.");

Scanner console = new Scanner (System.in);

String choose = "";

String pattern = "";

do {

if (!choose.equals ("e")) {

double x = Math.random();

if (x <= 0.25) {

System.out.print("N,");

pattern += "N,";

}

else if (x <= 0.5) {

System.out.print("E,");

pattern += "E,";

}

else if (x <= 0.75) {

System.out.print("S,");

pattern += "S,";

}

else {

System.out.print("W,");

pattern += "W,";

}

choose = console.nextLine();

}else{ //choose == "e"

System.out.println ("(eat food),");

pattern += "(eat food),";

choose = console.nextLine();

}

}while (!choose.equals ("s"));

System.out.print ("The pattern of our critter is:\n" + pattern);

return pattern;

}

}

class Hyena extends Critter {

//constructors

public Hyena () {

super();

}

//getter methods: inherited

//hyena has different travel path.

public String createPattern () {

System.out.println ("Hyena has rectangle travel path.\n[Enter] to keep finding food, [e] to find and eat food, [s] to stop.");

String pattern = "";

Scanner console = new Scanner (System.in);

int count = 1;

String choose = "";

do {

if (!choose.equals("e") && !choose.equals("s")) {

System.out.print("N,");

pattern += "N,";

choose = console.nextLine();

}

for (int i = 0; i<count && !choose.equals("e") && !choose.equals("s"); i++) {

System.out.print("E,");

pattern += "E,";

choose = console.nextLine();

}

if (!choose.equals("e") && !choose.equals("s")) {

System.out.print("S,");

pattern += "S,";

choose = console.nextLine();

}

for (int i = 0; i<count && !choose.equals("e") && !choose.equals("s"); i++) {

if (i == count-1) {

System.out.print("W;");

pattern += "W;\n";

}else{

System.out.print("W,");

pattern += "W,";

}

choose = console.nextLine();

}

if (choose.equals("e")) {

System.out.print ("(eats food),");

pattern += "(eats food);\n";

choose = console.nextLine();

}

count++;

}while (!choose.equals("s"));

System.out.print ("The pattern of our hyena is:\n" + pattern);

return pattern;

}

}