Class Sierpinski_carpet

java.lang.Object⊠
    Sierpinski_carpet

```
public class Sierpinski_carpet
extends Object⊠
```

Since:

1.0

this class create a recursive graphic image that displays on the screen.

we use the StdDraw class in edu.princeton library. this library provides a standard drawing class that uses java swing.

edu.princeton library developed by university of Princeton and provided by com.googlecode.

Version:

2.0

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Field Summary

Fields

Modifier and Type	Field	Description
static int	BLUE	we use this for creating a random RGB color.
static int	GREEN	we use this for creating a random RGB color.
static Random⊠	rand	initializing Random for random colors.
static int	RED	we use this for creating a random RGB color.

Constructor Summary

Constructors

Constructor	Description
Sierpinski_carpet()	

Method Summary

	All Methods	Static Methods	Concrete Methods

Modifier and Type	Method	Description
static void	**main**(**String**[] args)	This is the main method.
static void	**recursion**(int n, double x, double y, double size)	this is our main recursive method for creating squares.Plot an order n tree of overlapping gray squares.

Methods inherited from class java.lang.Object

clone, equals, finalize, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait

Field Details

rand

public static Random rand

initializing Random for random colors.

RED

public static final int RED

we use this for creating a random RGB color.

GREEN

public static final int GREEN

we use this for creating a random RGB color.

BLUE

public static final int BLUE

we use this for creating a random RGB color.

Constructor Details

Sierpinski_carpet

```
public Sierpinski_carpet()
```

Method Details

recursion

```
public static void recursion(int n,
                             double x,
                             double y,
                             double size)
```

this is our main recursive method for creating squares.Plot an order n tree of overlapping gray squares.

color for the inner squares choose at random.

the ratio is 1/3.

we use x,y for the other squares coordinates.

we use 8 recursion line for creating squares in different locations.

Parameters:

n - order of the recursion

x - coordinates of the x-axis of the center of the first square. we use it later for determine the dimensions of the smaller squares.

y - coordinates of the y-axis of the center of the first square. we use it later for determine the dimensions of the smaller squares.

size - size of the side length of the squares

main

```
public static void main(String[] args)
```

This is the main method.

change the int n number to plot an order n recursive Sierpinski-carpet pattern. right now is 6 but 5 is also great.

because our scale of the table is a 0 to 3 at the x,y axis the center will be (1.5,1.5).

size length decided by the algorithm to see which size is needed.

to change the screen resolution change the CanvasSize by using StdDraw.setCanvasSize(width,height);.

we create a full scale square first for the color(the color is randomly by the RGB system)

Parameters:

args - Unused.