

Lab Goal : This lab was designed to teach you more object oriented programming and how to write a very simple game, using interfaces, abstract classes, and inheritance.

Lab Description : Complete the code for the abstract class Cell located in Cell.java. Cell will be extended to make a Piece class. Piece will store name and location information for a game piece that could be used in a board game. Use PieceTester.java to test the completed Piece class.

```
public interface Locatable
{
    public void setPos( int x, int y);
    public void setX( int x );
    public void setY( int y );

    public int getX();
    public int getY();
}

public abstract class Cell implements Locatable
{
    private int xPos;
    private int yPos;
    private int width;
    private int height;

    //constructors

    //set methods

    //get methods

    public abstract void draw(Graphics window);

    //toString
}

public interface Nameable
{
    public void setName(String n);
    public String getName();
}

public class Piece extends Cell implements Nameable
{
    private String name;
    private Color color;

    //constructors

    //sets and gets

    public void draw(Graphics window)
    {
        window.setFont(new Font("TAHOMA", Font.BOLD, 28));
        window.setColor(getColor());
        window.drawRect(getX(), getY(), getWidth(), getHeight());
        window.drawString(getName(), getX()+10, getY()+30);
    }

    //toString
}
```

Files Needed ::

Locatable.java
Nameable.java
Cell.java
Piece.java
PieceTester.java

Sample Output (PieceTester.java)

```
5 5 5 5 empty java.awt.Color[r=0,g=0,b=255]
5 5 5 5 red checker java.awt.Color[r=0,g=0,b=255]
100 100 5 5 the shoe from a money game
java.awt.Color[r=0,g=0,b=255]
200 200 20 20 bishop java.awt.Color[r=255,g=255,b=255]
```