Step Into Java: Collages! (not 2 b confused w/ Colleges)

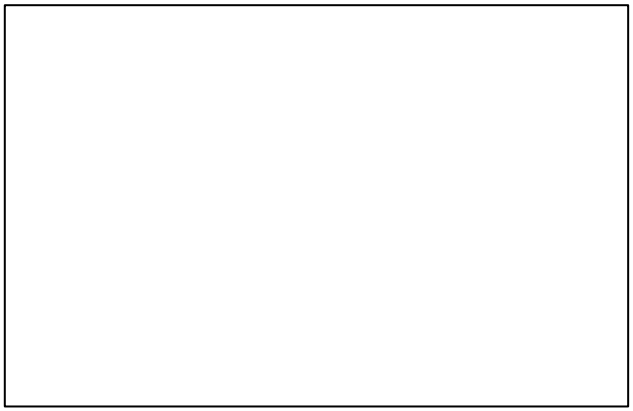
Mr. Neat

Java

Collages

- Copy one Pix to another…

flower



joe

Picture joe = new Picture(…

Picture flower = new Picture(…

Collages

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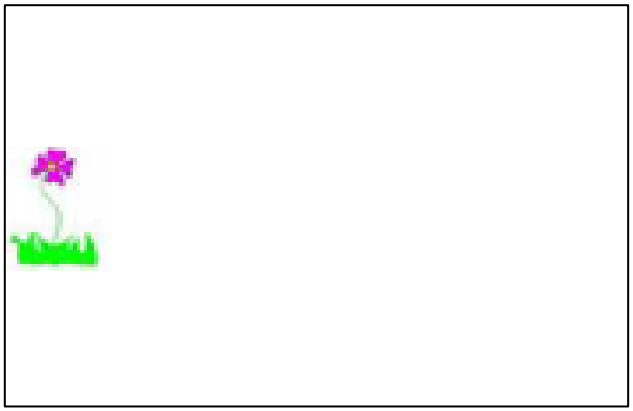
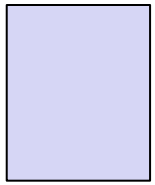
flower



joe

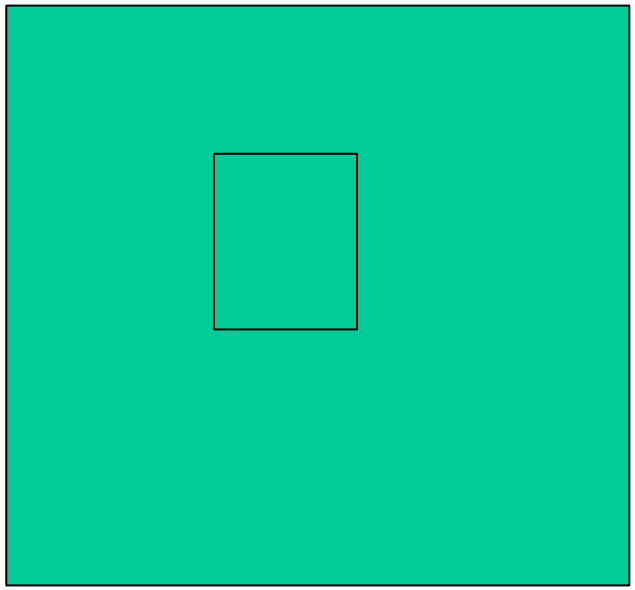
```
Picture joe = new Picture(…
Picture flower = new Picture(…
joe.copy(flower,100,0);
```

From Picture



flower

To Picture



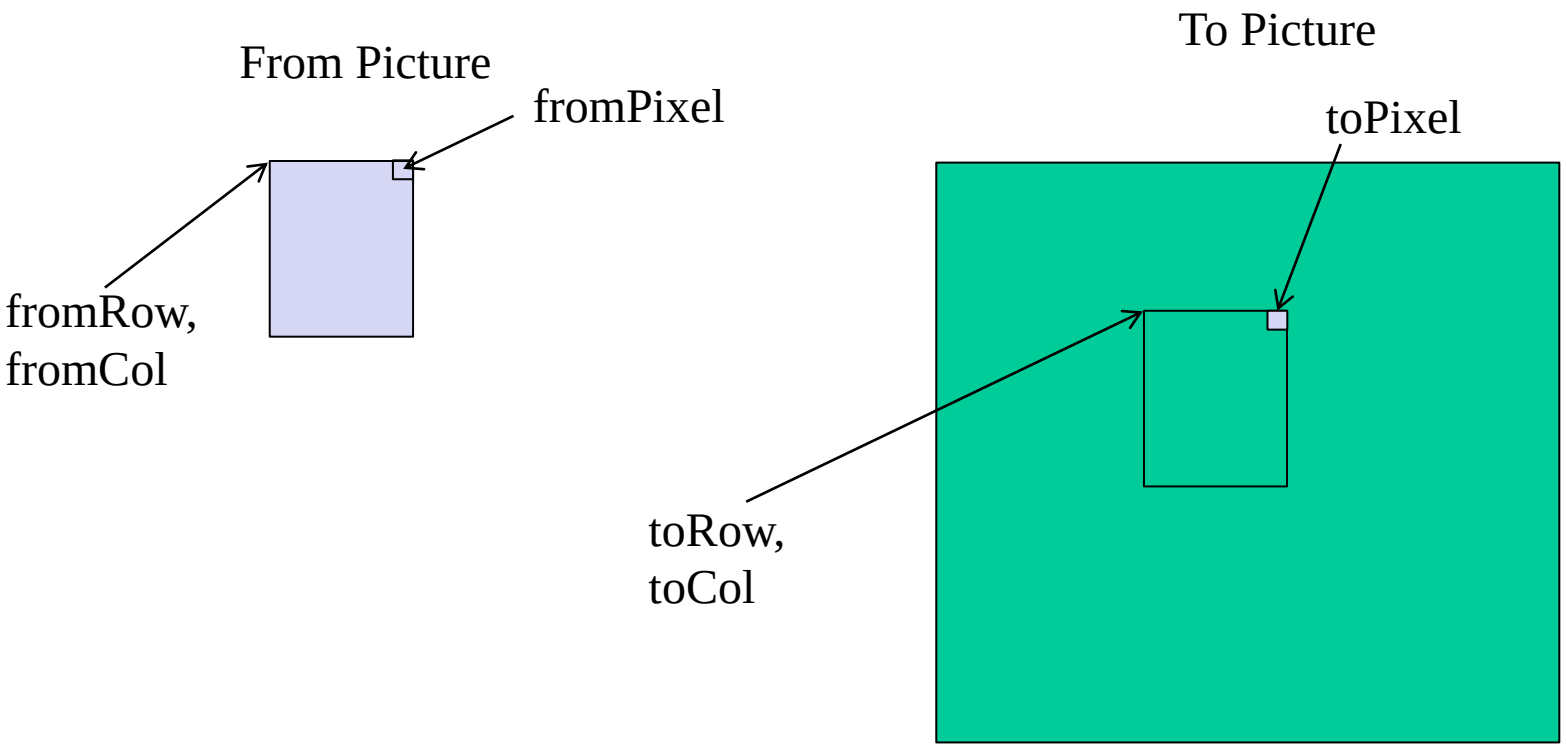
joe

joe.copy(flower,100,100);

Collages

- Let's explore the copy method (from the Picture class)

```
public void copy(Picture fromPic,
                 int startRow, int startCol)
{
  Pixel fromPixel = null;
  Pixel toPixel = null;
  Pixel[][] toPixels = this.getPixels2D();
  Pixel[][] fromPixels = fromPic.getPixels2D();
  for (int fromRow = 0, toRow = startRow;
       fromRow < fromPixels.length &&
       toRow < toPixels.length;
       fromRow++, toRow++)
  {
    for (int fromCol = 0, toCol = startCol;
         fromCol < fromPixels[0].length &&
         toCol < toPixels[0].length;
         fromCol++, toCol++)
    {
      fromPixel = fromPixels[fromRow][fromCol];
      toPixel = toPixels[toRow][toCol];
      toPixel.setColor(fromPixel.getColor());
    }
  }
}
```




```
fromPixel = fromPixels[fromRow][fromCol];
toPixel = toPixels[toRow][toCol];
toPixel.setColor(fromPixel.getColor());
```

Collages

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```
public void copy(Picture fromPic,
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{
  Pixel fromPixel = null;
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  Pixel[][] toPixels = this.getPixels2D();
  Pixel[][] fromPixels = fromPic.getPixels2D();
  for (int fromRow = 0, toRow = startRow;
       fromRow < fromPixels.length &&
       toRow < toPixels.length;
       fromRow++, toRow++)
  {
    for (int fromCol = 0, toCol = startCol;
         fromCol < fromPixels[0].length &&
         toCol < toPixels[0].length;
         fromCol++, toCol++)
    {
      fromPixel = fromPixels[fromRow][fromCol];
      toPixel = toPixels[toRow][toCol];
      toPixel.setColor(fromPixel.getColor());
    }
  }
}
```
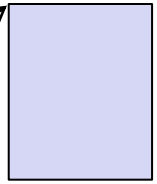
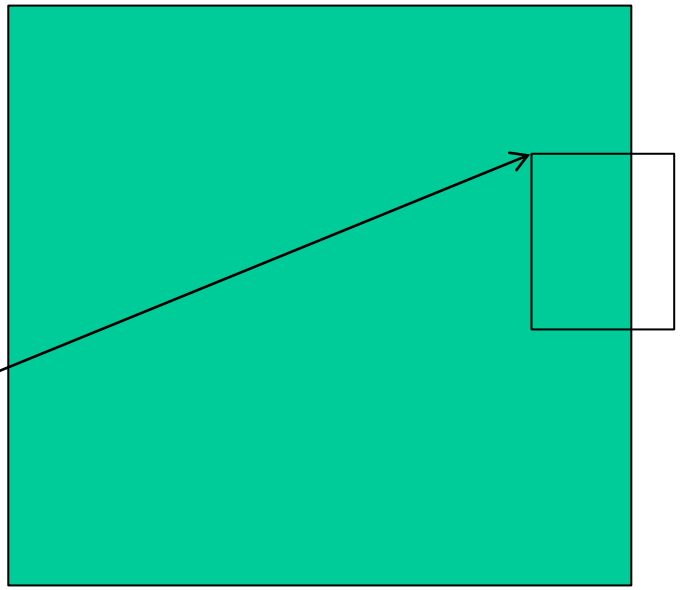

makes sure copied pix doesn't go off page

From Picture



fromRow,
fromCol

To Picture

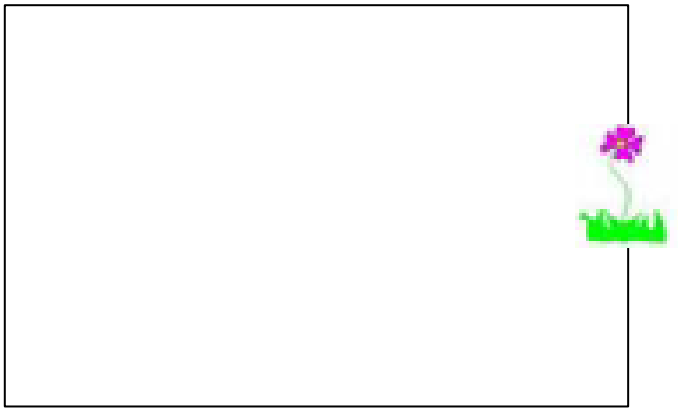


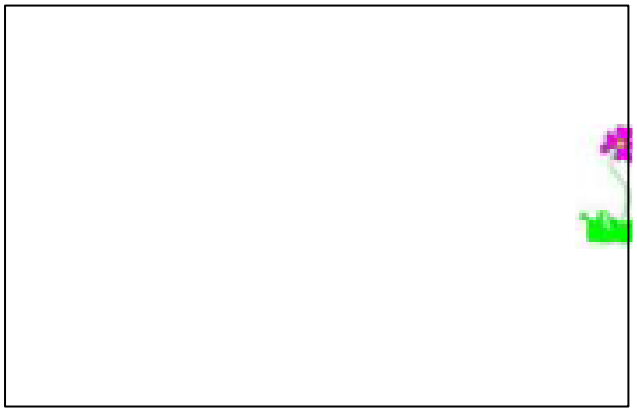
toRow,
toCol

```
for (int fromCol = 0, toCol = startCol;
     fromCol < fromPixels[0].length &&
     toCol < toPixels[0].length;
     fromCol++, toCol++)
{
```

Collages

- Copy one Pix to another…





Collages Go Crazy!

Collages Go Crazy!

```
public void createCollage()
{
   Picture flower1 = new Picture("flower1.jpg");
   Picture flower2 = new Picture("flower2.jpg");
   this.copy(flower1,0,0);
   this.copy(flower2,100,0);
   this.copy(flower1,200,0);
   Picture flowerNoBlue = new Picture(flower2);
   flowerNoBlue.zeroBlue();
   this.copy(flowerNoBlue,300,0);
   this.copy(flower1,400,0);
   this.copy(flower2,500,0);
   this.mirrorVertical();
   this.write("collage.jpg");
}
```

Lab – Collage

Create a `myCollage` method that has at least three pictures (can be the same picture) copied three times with three different picture manipulations and at least one mirroring. Write a class (static) test method in `PictureTester` to test this new method and call it in the `main` method.