This quiz is to be taken by yourself with closed books, closed notes, no electronic devices.

Fill in the blanks in the following code to correctly loop through all the pixels in "this" Picture object.

```java
public void someMethodInClassPicture()
{
    // Create an array of all the pixels in this Picture
    Pixel[] pixelArray = this.______________________________();
    int i = _______;  // Initialize index variable
    while ( i < _____________________________________________ )  // Loop thru all pixels
    {
        Pixel pixel = _______________________ [ ______ ];  // Access the pixel at each index
        // Do something with this pixel
        i_____;  // Change index variable to access the next pixel
    }
}
```

The following is a while loop. Write the equivalent as a for loop (not a foreach loop). Be sure to put the comment // Some code here in the correct location in relation to the other parts of the for loop you write.

```java
int i = 42;
while ( i >= 17 )
{
    // Some code here
    i--;
}
```

Fill in the blanks below so the code correctly gets the width of a Picture object referenced by a variable named bar and stores it in the variable named foo. Be sure to fill in the correct type of variable foo.

```java
Picture bar = new Picture();

________ foo;  // Fill in the type variable foo should be defined as.
foo = __________________________;  // Fill in the right side of this assignment stmt
// to get the width of the Picture object bar
// references.
```

(More on other side – turn over)
Trace the following program and specify its output.

```java
public class Trace {
    public static void main( String[] args ) {
        System.out.println( "main#1" );
        foo1();
        System.out.println( "main#2" );
        foo2();
        System.out.println( "main#3" );
    }
    public static void foo2() {
        foo3();
        System.out.println( "foo#2" );
    }
    public static void foo1() {
        System.out.println( "foo#1" );
        foo2();
    }
    public static void foo3() {
        System.out.println( "foo#3" );
    }
}
```

List the six relational operators in Java that evaluate to a boolean value. Not English words; Java operators.

```
__________  __________  __________
__________  __________  __________
```

What order are pixels changed given this code in Picture.java (assuming all variables are correctly defined and set)? Write the letter of the correct order here:

```
A) L->R;Top->Down
B) L->R;Bottom->Up
C) Top->Down;L->R
D) Bottom->Up;L->R
```

What about this code?

```
for ( int i = 0; i < width; i++ ) {
    for ( int j = height - 1; j >= 0; j-- ) {
        p = getPixel( i, j );
        p.setColor( Color.BLACK );
    }
}
```