Signature _____ **CSE 11** **Name** _____

Quiz 3

cs11f ____ **Fall 2013** **Student ID** _____

This quiz is to be taken **by yourself** with closed books, closed notes, no calculators.

What gets printed when the following program is run?

```
public class While
{
  public static void main( String[] args )
  {
    final int MAX = 8;
    int i = 2, j = -2;

    System.out.println( i + " " + j );

    while ( i <= MAX )
    {
      j = i + 1;

      while ( j < MAX )
      {
        j += 3;
        System.out.println( i + " " + j );
      }

      i += 2;
    }

    System.out.println( i + " " + j );
  }
}
```

Trace the following program and specify its output.

```
public class Trace
{
  public static void main( String[] args )
  {
    System.out.println( "main1" );
    foo1();
    System.out.println( "main2" );
    foo3();
    System.out.println( "main3" );
    foo2();
  }

  public static void foo1()
  {
    foo3();
    System.out.println( "A" );
  }

  public static void foo2()
  {
    System.out.println( "B" );
  }

  public static void foo3()
  {
    System.out.println( "C" );
    foo2();
  }
}
```

We usually define instance variables with the access modifier _____ while we usually define ctors and methods we want to be part of this type's published interface with the access modifier _____.

JButton is an example of a GUI _____ while a JPanel is an example of a GUI _____ which has a layout manager.

Given the following definitions:

```
public interface Printable
{
  public static final String ORIENTATION = "Portrait";

  public abstract void print( boolean doubleSided );
}
```

```
class Thing1 implements Printable
{
  public Thing1()
  {
    // ctor initialization here
  }

  public void print( boolean doubleSided )
  {
    // print either single/double sided
  }

  public void print()
  {
    // print single sided by default
    this.print( false );
  }
}
```

```
class Thing2 implements Printable
{
  public Thing2()
  {
    // ctor initialization here
  }

  public void print( boolean doubleSided )
  {
    // print either single/double sided
  }

  public void print( String orientation )
  {
    ORIENTATION = orientation; /* A */

    // print single sided by default
    this.print( false );
  }
}
```

And the following variable definitions and code are in some other class:

```
Thing1 thing1;
Thing2 thing2;
Printable printable;
```

Indicate which are valid Java statements. Consider each statement executed sequentially in the order it appears.

1) Valid Java statement – No Compiler Error
2) Invalid Java statement – Compiler Error

Hint: What does the compiler know about any reference variable at compile time (vs. run time)?

```
thing1 = new Thing1();          _______

thing1.print();                 _______

thing1.print( true );           _______

thing1.print( "Landscape" );_______

thing2 = new Thing2();          _______

thing2.print();                 _______

thing2.print( true );           _______

thing2.print( "Landscape" );_______

The line marked /* A */ in class Thing2:
ORIENTATION = orientation;  _______
```

```
printable = new Thing1();       _______

printable.print();              _______

printable.print( true );        _______

printable = thing2;             _______

printable.print( "Landscape" ); _______

printable.print( true );        _______

printable = new Printable();    _______

thing1 = thing2;                _______

thing1 = printable;             _______
```