Signature _____ **CSE 11 Quiz 3 Fall 2012** **Name** _____

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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 = 5;
    int i = 3, j = -1;

    while ( i < MAX )
    {
      j = i;
      while ( j <= MAX )
      {
        --j;
        System.out.println( i + " " + j );
        j += 2;
      }
      i++;
    }

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

Trace the following program and specify its output.

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

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

  public static void foo2()
  {
    System.out.println( "B" );
    foo1();
  }

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

An object which is defined to handle action events must implement the _____

interface and provide a body/implementation for the abstract method named _____.

A GUI _____ has a layout manager which defines how GUI _____ are laid out.

Given the following definitions:

```
public interface Speakable
{
  public abstract String speak();
}
```

```
class Thing1 implements Speakable
{
  private static final String SPEAK = "Me";

  public Thing1()
  {
    // ctor initialization here
  }

  public String speak()
  {
    return SPEAK;
  }

  public void doit( String s )
  {
    // Thing1 does its thing with s
  }
}
```

```
class Thing2 implements Speakable
{
  public static final String SPEAK = "No, Me";

  public Thing2()
  {
    // ctor initialization here
  }

  public String speak()
  {
    return SPEAK;
  }

  public void doit()
  {
    // Thing2 does its thing
  }
}
```

And the following variable definitions:

```
Thing1 thing1;
Thing2 thing2;
Speakable speakable;
```

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

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

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

```
thing1 = new Thing1();      _______

thing1.speak();             _______

thing1.doit();              _______

thing1.doit( "Yours" );     _______

String s1 = Thing1.SPEAK;   _______

thing2 = new Thing2();      _______

thing2.doit( "Theirs" );    _______

thing2.speak();             _______

thing2.doit();              _______
```

```
String s2 = Thing2.SPEAK;   _______

speakable = new Speakable();_______

thing1 = thing2;            _______

thing1 = speakable;         _______

speakable = new Thing1();   _______

speakable.speak();          _______

speakable.doit( "Mine" );   _______

speakable = thing2;         _______

speakable.speak();          _______

speakable.doit();           _______
```