Practice Quiz #3

- Write legibly. If I am unable to read your writing, you will receive **zero** points.

- Put your name on EACH page.

- You can use `S.O.P.L()` to abbreviate `System.out.println()` and `S.O.P()` to abbreviate `System.out.print()`.

- For coding problems, you should write the main( ) method only. You can assume that following import statement and keyboard declarations.

  import java.util.Scanner;

  Scanner keyboard = new Scanner(System.in);
  Scanner kb = new Scanner(System.in);
  Scanner input = new Scanner(System.in);

- For problems that ask you to write a method, you must use the given method header **exactly** as shown, and you do not need to write the `main( )` method.

- You must give your answer to a question on the **same sheet of paper that the question appears on.** If you run out of space on the front of the page, you may continue to the back of that page only. If you put your answer on a different page, **you will not receive credit for that question!**

1. Write a Java method named *numberOfVowels* that accepts one String parameter, *msg*. The method returns the number of vowels that occur in the String *msg*. For example, `numberOfVowels("magic")` would return the value 2. Similarly, `numberOfVowels("pettunia")` and `numberOfVowels("graduate")` would both return the value 4 and `numberOfVowels("spy")` would return the value 0.

```java
public static int numberOfVowels(String msg)
{
    int count = 0;
    for (int i = 0; i < msg.length(); i++)
    {
        char let = msg.charAt(i);
        if (let == 'a' || let == 'e' || let == 'i' || let == 'o' || let == 'u')
        {
            count++;
        }
    }

    return count;



}
```

2. Trace through the following program and determine the output. Write the output in the Output Window provided.

```java
public class PracticeQuiz3
{
    public static void main(String[] args)
    {
        int shoes = 5, laces = 4, slippers = 3;
        boolean tied = true;
        boolean pants = false;

        for (int i = 1; i <= shoes; i++)
        {
            if ( i % 2 == 0 || pants )
            {
                laces = method1(tied, slippers);
                S.O.P.L(laces + " laces");
                pants = !pants;
            }
            else
            {
                slippers = method2(!tied, laces);
                S.O.P.L("slippers " + slippers);
                pants = !pants;
            }
        }
    }

    public static int method1(boolean b, int a)
    {
        S.O.P.L("Hello all shoes.");
        if (b)
            return a + a;
        else
            return a/2;
    }

    public static int method2(boolean b, int a)
    {
        S.O.P.L("Goodbye all shoes.");
        if (!b)
            return a + 1;
        else
            return a * 2;
    }
}
```

Output Window
Goodbye all shoes.
slippers 5
Hello all shoes.
10 laces
Goodbye all shoes.
slippers 11
Hello all shoes.
22 laces
Goodbye all shoes.
slippers 23