

### The Most Difficult Part of the Assignment

The most difficult part of the assignment was adding the arrayReturn method to StringTokenizer. I had small difficulty understanding how to implement this and print the array in the main class.

### Status

Completed

### Lines of Code

#### **ImprovedRandomizer**

```
import java.util.Random;
public class ImprovedRandom extends Random
{
    int firstBoundary;
    int secondBoundary;
    public ImprovedRandom()
    {
        super();
    }

    public ImprovedRandom(long seed)
    {
        super(seed);
    }

    public int getFirstBoundary()
    {
        return firstBoundary;
    }

    public int getSecondBoundary()
    {
        return secondBoundary;
    }

    public void setFirstBoundary(int firstBo)
    {
        firstBoundary=firstBo;
    }

    public void setSecondBoundary( int secondBo)
    {
        secondBoundary=secondBo;
    }

    public int boundaryRandom(int firstB, int secondB)
    {
        firstBoundary=firstB;
        secondBoundary=secondB;
        ImprovedRandom r=new ImprovedRandom();
        return r.nextInt(secondB-firstB+1)+firstB;
    }
}
```

}

#### **ImprovedStringTokenizer**

```
import java.util.StringTokenizer;
public class ImprovedStringTokenizer extends StringTokenizer
{
    String output[];
    int size;
```

```

ImprovedStringTokenizer(String str)
{
    super(str);
}

ImprovedStringTokenizer(String str, String delim)
{
    super(str,delim);
}

ImprovedStringTokenizer(String str, String delim, boolean returnDelims)
{
    super(str,delim,returnDelims);
}

public int getSize()
{
    return size;
}

public void setSize(int si)
{
    size=si;
}

String [] arrayReturn(String input, String delim)
{
    ImprovedStringTokenizer stri=new ImprovedStringTokenizer(input,delim);
    size=stri.countTokens();
    output=new String[size];
    while(stri.hasMoreTokens())
    {
        for(int i=0;i<output.length;i++)
        {
            output[i]=stri.nextToken();
        }
    }
    return output;
}
}

```

### **Junit Tests**

```

@Test
public void arrayReturnsTest()
{
    String input="This class is easy";
    ImprovedStringTokenizer strin=new ImprovedStringTokenizer(input," ");
    String output[]=strin.arrayReturn(input," ");
    assertEquals("This",output[0]);
    assertEquals("class",output[1]);
    assertEquals("is",output[2]);
    assertEquals("easy",output[3]);
}

@Test
public void arrayReturnsTestComma()
{
    String input="This,class,is,easy";
    ImprovedStringTokenizer strin=new ImprovedStringTokenizer(input,",");
    String output[]=strin.arrayReturn(input,",");
    assertEquals("This",output[0]);
    assertEquals("class",output[1]);
    assertEquals("is",output[2]);
    assertEquals("easy",output[3]);
}

```

}

### **Cyclomatic Coverage**

Both Classes

$N=0$  (No if statements)

$P=1$  (One Exit Point at the End of the Program)

$M=E-N+2*P$

$=1-0+2*P$

$=3$