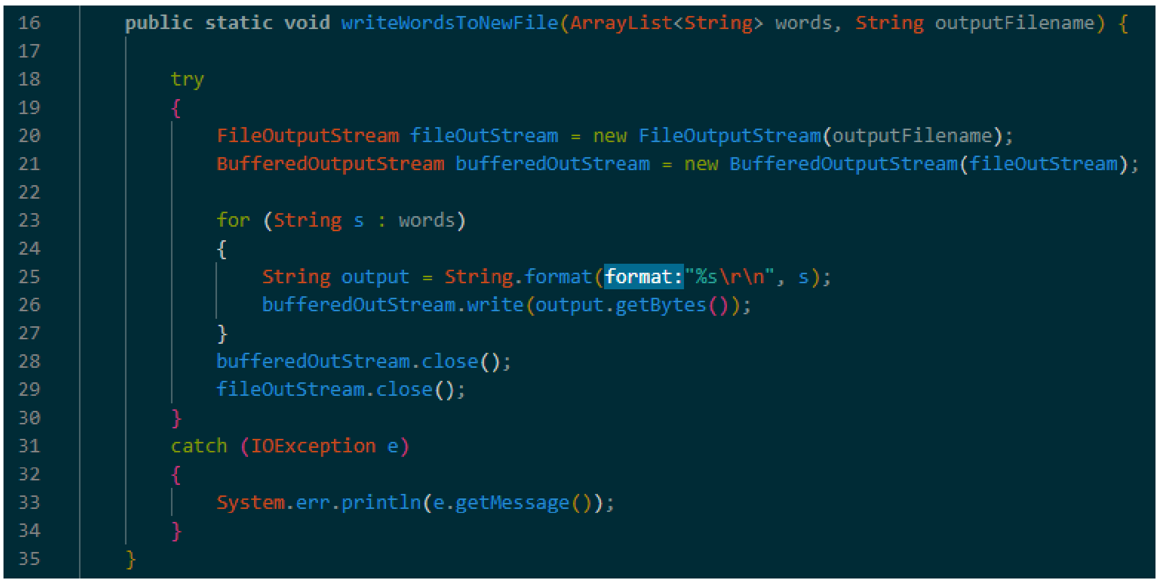
Dr. Barker's CS 2420
Report by Weston Shakespear
Summer 2023

Review: FileIO

File writing:

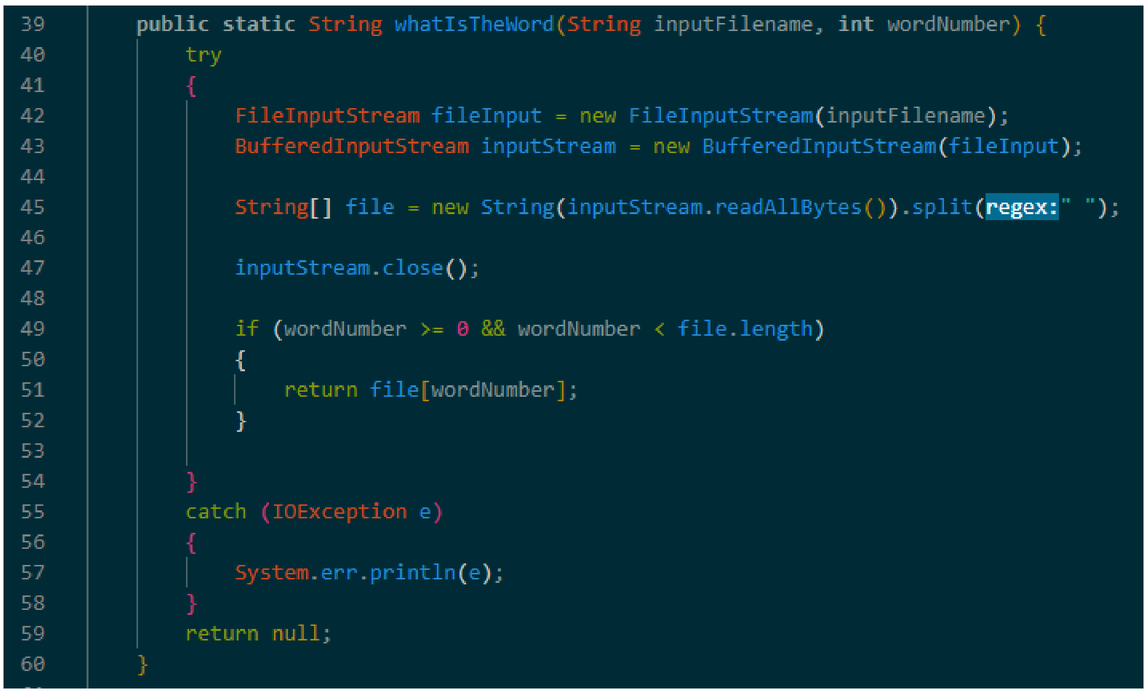


```java
    public static void writeWordsToNewFile(ArrayList<String> words, String outputFilename) {

        try
        {
            FileOutputStream fileOutStream = new FileOutputStream(outputFilename);
            BufferedOutputStream bufferedOutStream = new BufferedOutputStream(fileOutStream);

            for (String s : words)
            {
                String output = String.format(format:"%s\r\n", s);
                bufferedOutStream.write(output.getBytes());
            }
            bufferedOutStream.close();
            fileOutStream.close();
        }
        catch (IOException e)
        {
            System.err.println(e.getMessage());
        }
    }
```

File Reading 1:



```java
    public static String whatIsTheWord(String inputFilename, int wordNumber) {
        try
        {
            FileInputStream fileInput = new FileInputStream(inputFilename);
            BufferedInputStream inputStream = new BufferedInputStream(fileInput);

            String[] file = new String(inputStream.readAllBytes()).split(regex:" ");

            inputStream.close();

            if (wordNumber >= 0 && wordNumber < file.length)
            {
                return file[wordNumber];
            }

        }
        catch (IOException e)
        {
            System.err.println(e);
        }
        return null;
    }
```

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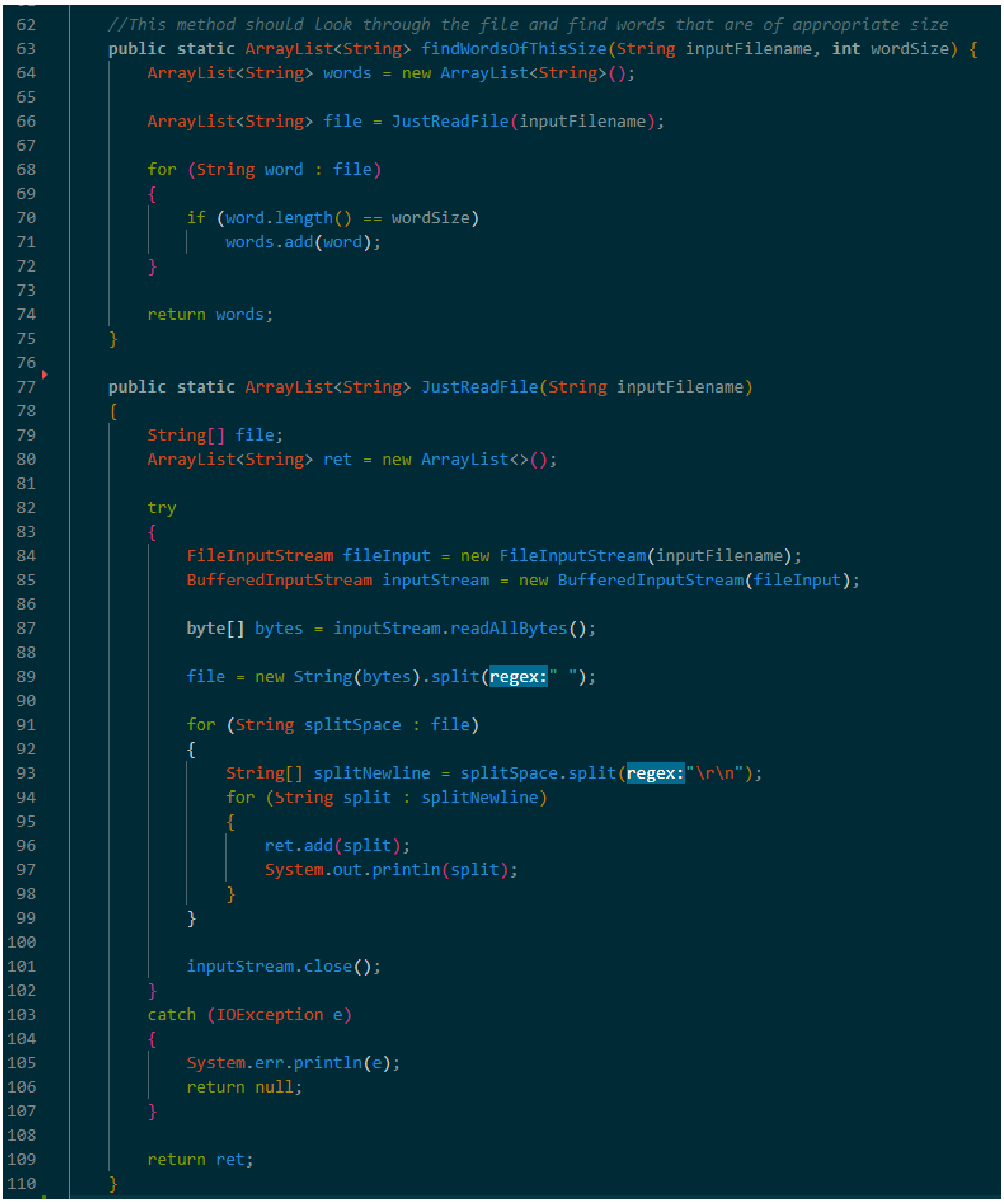
File Reading 2:



```java
//This method should look through the file and find words that are of appropriate size
public static ArrayList<String> findWordsOfThisSize(String inputFilename, int wordSize) {
    ArrayList<String> words = new ArrayList<String>();

    ArrayList<String> file = JustReadFile(inputFilename);

    for (String word : file)
    {
        if (word.length() == wordSize)
            words.add(word);
    }

    return words;
}

public static ArrayList<String> JustReadFile(String inputFilename)
{
    String[] file;
    ArrayList<String> ret = new ArrayList<>();

    try
    {
        FileInputStream fileInput = new FileInputStream(inputFilename);
        BufferedInputStream inputStream = new BufferedInputStream(fileInput);

        byte[] bytes = inputStream.readAllBytes();

        file = new String(bytes).split(regex:" ");

        for (String splitSpace : file)
        {
            String[] splitNewline = splitSpace.split(regex:"\r\n");
            for (String split : splitNewline)
            {
                ret.add(split);
                System.out.println(split);
            }
        }

        inputStream.close();
    }
    catch (IOException e)
    {
        System.err.println(e);
        return null;
    }

    return ret;
}
```

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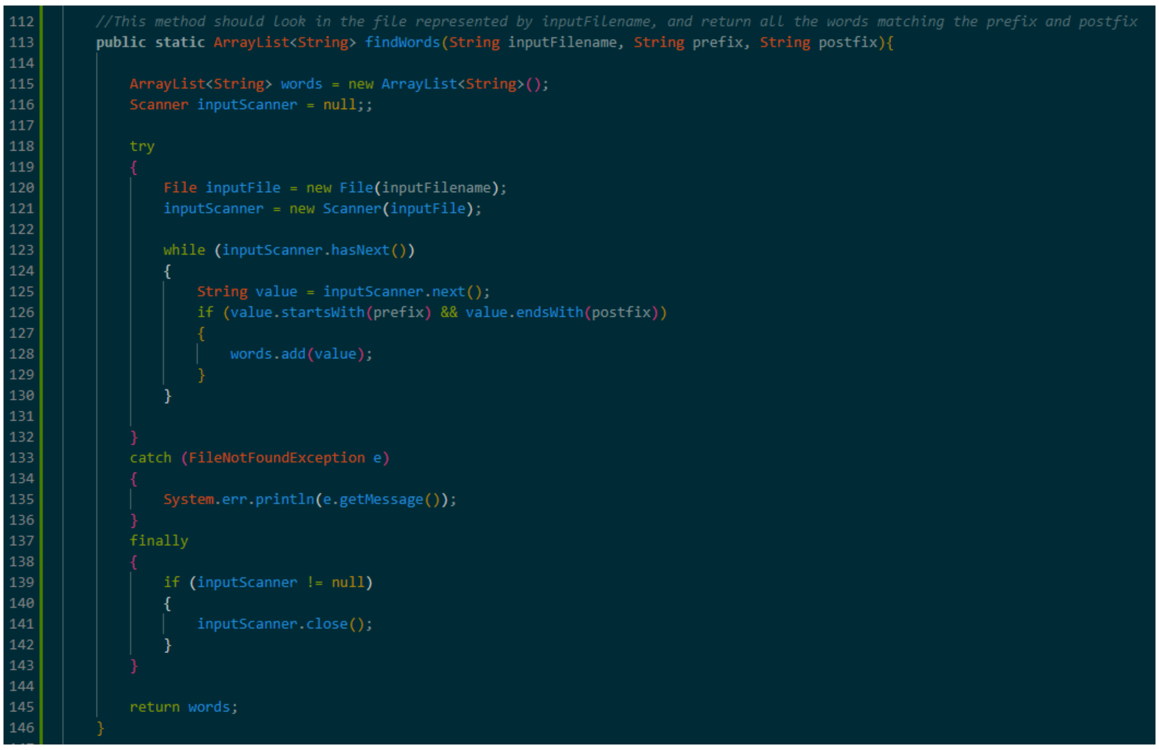
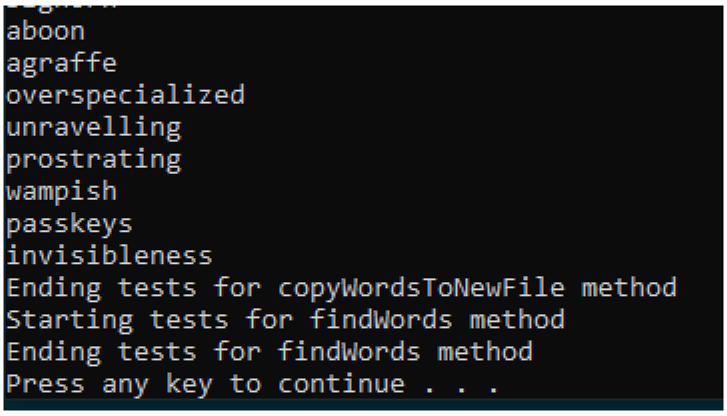
File Reading 3:



```java
//This method should look in the file represented by inputFilename, and return all the words matching the prefix and postfix
public static ArrayList<String> findWords(String inputFilename, String prefix, String postfix){

    ArrayList<String> words = new ArrayList<String>();
    Scanner inputScanner = null;;

    try
    {
        File inputFile = new File(inputFilename);
        inputScanner = new Scanner(inputFile);

        while (inputScanner.hasNext())
        {
            String value = inputScanner.next();
            if (value.startsWith(prefix) && value.endsWith(postfix))
            {
                words.add(value);
            }
        }

    }
    catch (FileNotFoundException e)
    {
        System.err.println(e.getMessage());
    }
    finally
    {
        if (inputScanner != null)
        {
            inputScanner.close();
        }
    }

    return words;
}
```

Testing Output:



```
aboon
agraffe
overspecialized
unravelling
prostrating
wampish
passkeys
invisibleness
Ending tests for copyWordsToNewFile method
Starting tests for findWords method
Ending tests for findWords method
Press any key to continue . . .
```

I couldn't figure out how to use the Scanner to read a file without it echoing the output to the terminal. Other than that all the tests executed correctly.