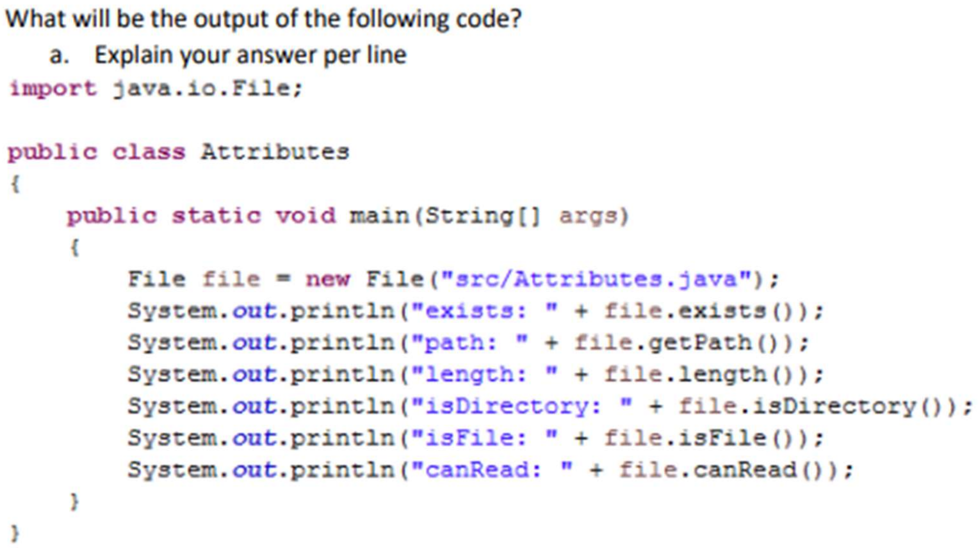
Intermediate Programming - File Handling

1 – BSCS -.2 | Marasigan, Vem Aiensi A.

1.



What will be the output of the following code?

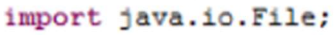
a. Explain your answer per line

```java
import java.io.File;

public class Attributes
{
    public static void main(String[] args)
    {
        File file = new File("src/Attributes.java");
        System.out.println("exists: " + file.exists());
        System.out.println("path: " + file.getPath());
        System.out.println("length: " + file.length());
        System.out.println("isDirectory: " + file.isDirectory());
        System.out.println("isFile: " + file.isFile());
        System.out.println("canRead: " + file.canRead());
    }
}
```

The output will be:

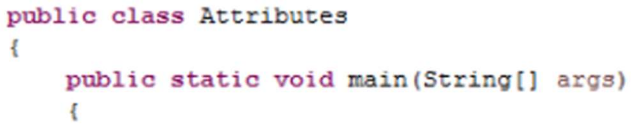
```
exists: true
path: src\Attributes.java
length: 470
isDirectory: false
isFile: true
canRead: true
```

a.



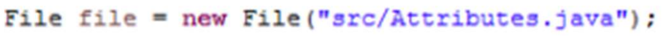
```java
import java.io.File;
```

//This imports the File class in the program.



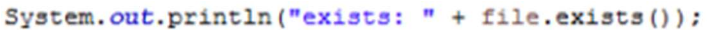
```java
public class Attributes
{
    public static void main(String[] args)
    {
```

//This is the class and its main method.



```java
File file = new File("src/Attributes.java");
```

//This instantiates a File object as file and creates a file named Attributes.java in the src folder.

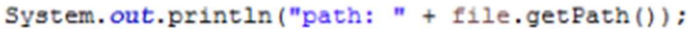


```java
System.out.println("exists: " + file.exists());
```

//Prints the word “exists: “ concatinated with the resulting boolean answer from the method exists() which tests whether the file exists and returns a boolean expression(which is true in the program’s case) .

Output of the line is

```
exists: true
```

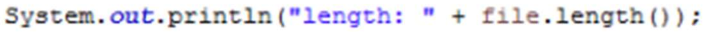


```
System.out.println("path: " + file.getPath());
```

//Prints the word “path: “ concatinated with the method getPath() which provides the file’s path.

Output of the line is

```
path: src\Attributes.java
```

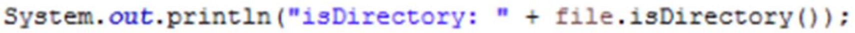


```
System.out.println("length: " + file.length());
```

//Prints the word “length: “ concatinated with the method length() which returns a long value that refers to the size of the file in bytes.

Output of the line is

```
length: 470
```

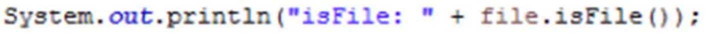


```
System.out.println("isDirectory: " + file.isDirectory());
```

//Prints the word “isDirectory: “ concatinated with the resulting boolean answer from the method isDirectory() which tests whether the file denoted by this abstract pathname is a directory.

Output of the line is

```
isDirectory: false
```

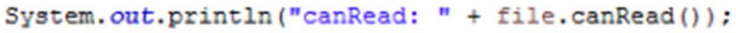


```
System.out.println("isFile: " + file.isFile());
```

//Prints the word “isFile: “ concatinated with the resulting boolean answer from the method isFile() which tests whether the file is a normal file, meaning that it is not a directory.

Output of the line is

```
isFile: true
```



```
System.out.println("canRead: " + file.canRead());
```

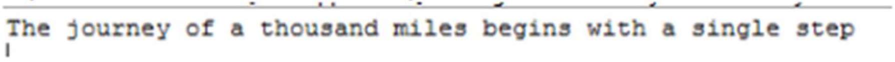
//Prints the word “canRead: “ concatinated with the resulting boolean answer from the method canRead() which tests whether the file is readable or not

Output of the line is

```
canRead: true
```

2.

In your IDE, follow the instruction to produce the



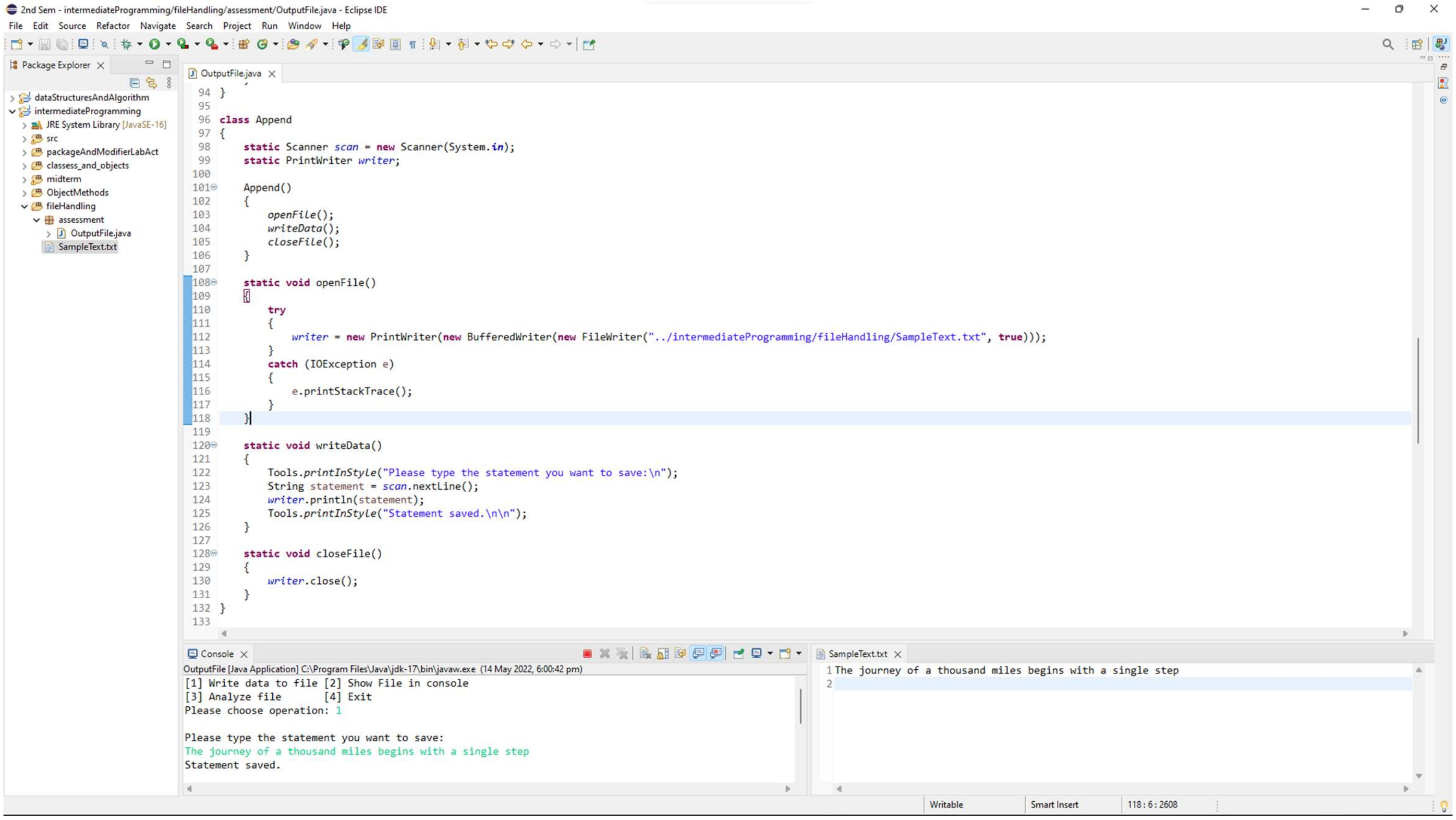
```
The journey of a thousand miles begins with a single step
```

output.

a. Save this **"The journey of a thousand miles begins with a single step"** to **SampleText.txt** inside your eclipse project folder.

b. Write the correct code to generate the given output using **try catch** with **exception.**

c. **Make sure that you split your screen showing the correct code and the console output.** (paste your solution with output here in console)

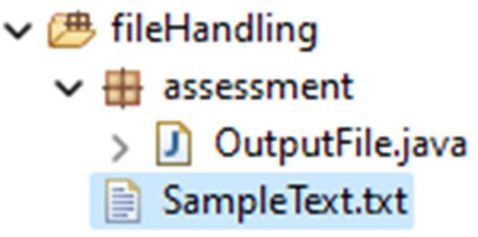


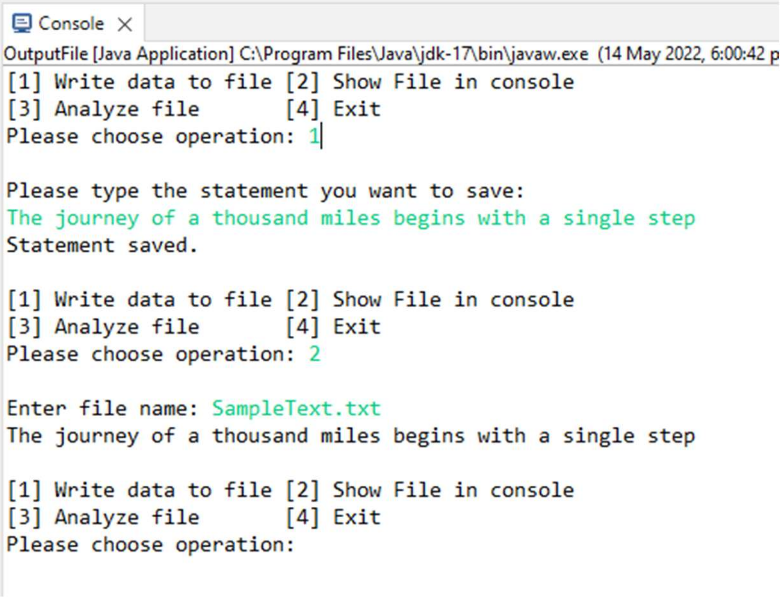
```java
}

class Append
{
    static Scanner scan = new Scanner(System.in);
    static PrintWriter writer;

    Append()
    {
        openFile();
        writeData();
        closeFile();
    }

    static void openFile()
    {
        try
        {
            writer = new PrintWriter(new BufferedWriter(new FileWriter("../intermediateProgramming/fileHandling/SampleText.txt", true)));
        }
        catch (IOException e)
        {
            e.printStackTrace();
        }
    }

    static void writeData()
    {
        Tools.printInStyle("Please type the statement you want to save:\n");
        String statement = scan.nextLine();
        writer.println(statement);
        Tools.printInStyle("Statement saved.\n\n");
    }

    static void closeFile()
    {
        writer.close();
    }
}
```

OutputFile [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (14 May 2022, 6:00:42 pm)

```
[1] Write data to file [2] Show File in console
[3] Analyze file       [4] Exit
Please choose operation: 1

Please type the statement you want to save:
The journey of a thousand miles begins with a single step
Statement saved.
```

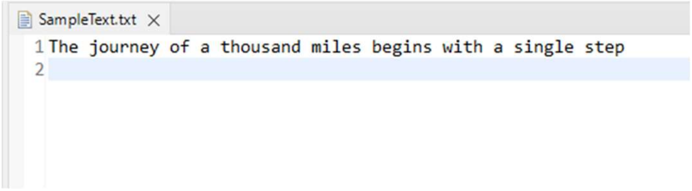
```
1 The journey of a thousand miles begins with a single step
2
```





OutputFile [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (14 May 2022, 6:00:42 p

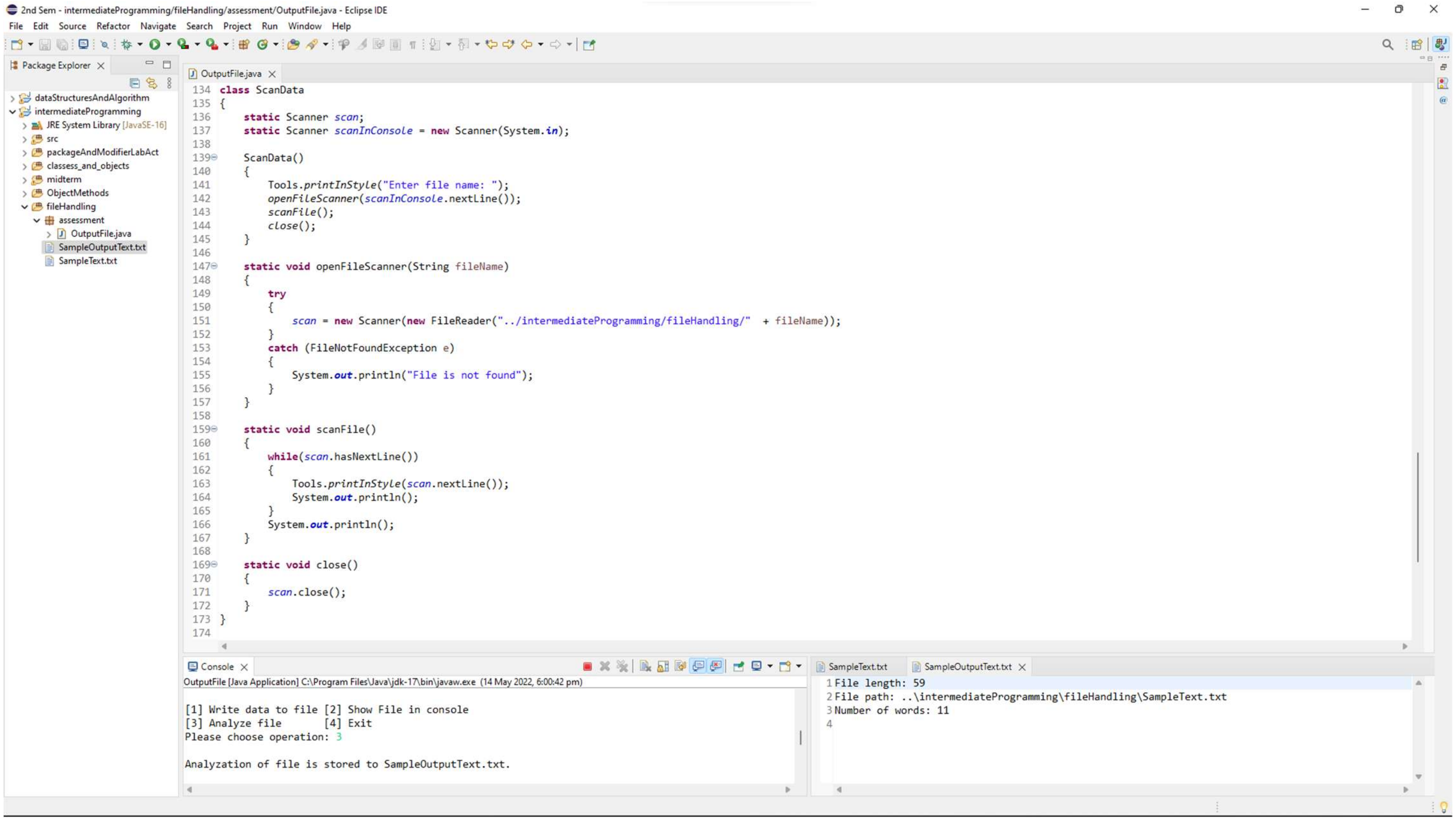
```
[1] Write data to file [2] Show File in console
[3] Analyze file       [4] Exit
Please choose operation: 1

Please type the statement you want to save:
The journey of a thousand miles begins with a single step
Statement saved.

[1] Write data to file [2] Show File in console
[3] Analyze file       [4] Exit
Please choose operation: 2

Enter file name: SampleText.txt
The journey of a thousand miles begins with a single step

[1] Write data to file [2] Show File in console
[3] Analyze file       [4] Exit
Please choose operation:
```



```
1 The journey of a thousand miles begins with a single step
2
```

3.

Create an **OutputFile.java** that will display the length, the specific path, and the number of words of the **SampleText.txt** then store and display it using **SampleOuputText.txt**. Use a **try catch** with **exception.** (paste your solution with output here in console and text file)

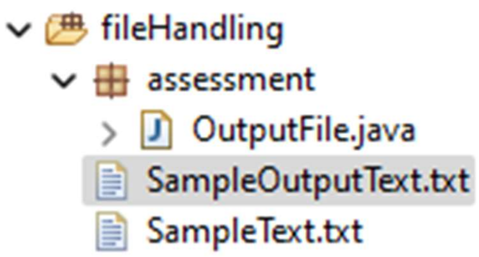


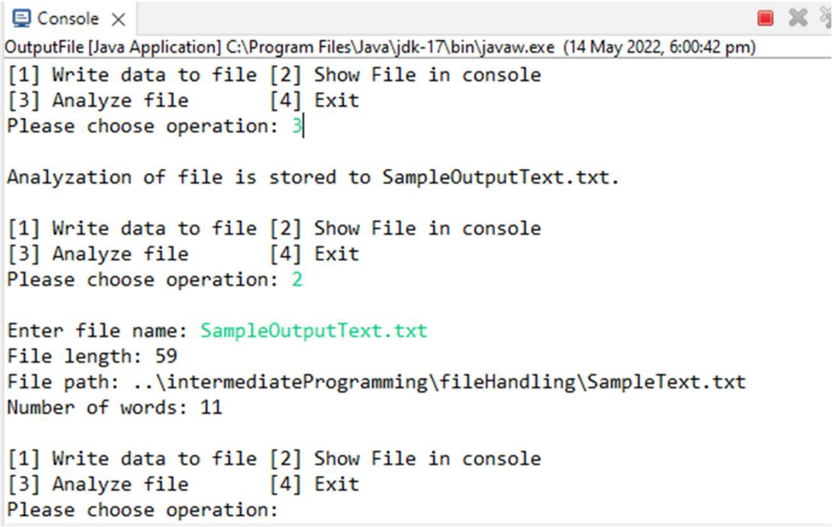
```java
class ScanData
{
    static Scanner scan;
    static Scanner scanInConsole = new Scanner(System.in);

    ScanData()
    {
        Tools.printInStyle("Enter file name: ");
        openFileScanner(scanInConsole.nextLine());
        scanFile();
        close();
    }

    static void openFileScanner(String fileName)
    {
        try
        {
            scan = new Scanner(new FileReader("../intermediateProgramming/fileHandling/"  + fileName));
        }
        catch (FileNotFoundException e)
        {
            System.out.println("File is not found");
        }
    }

    static void scanFile()
    {
        while(scan.hasNextLine())
        {
            Tools.printInStyle(scan.nextLine());
            System.out.println();
        }
        System.out.println();
    }

    static void close()
    {
        scan.close();
    }
}
```

OutputFile [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (14 May 2022, 6:00:42 pm)

```
[1] Write data to file [2] Show File in console
[3] Analyze file       [4] Exit
Please choose operation: 3

Analyzation of file is stored to SampleOutputText.txt.
```

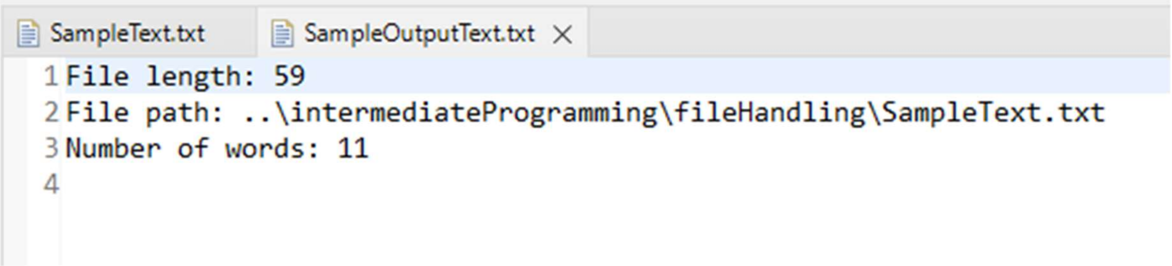
```
1 File length: 59
2 File path: ..\intermediateProgramming\fileHandling\SampleText.txt
3 Number of words: 11
4
```





OutputFile [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (14 May 2022, 6:00:42 pm)

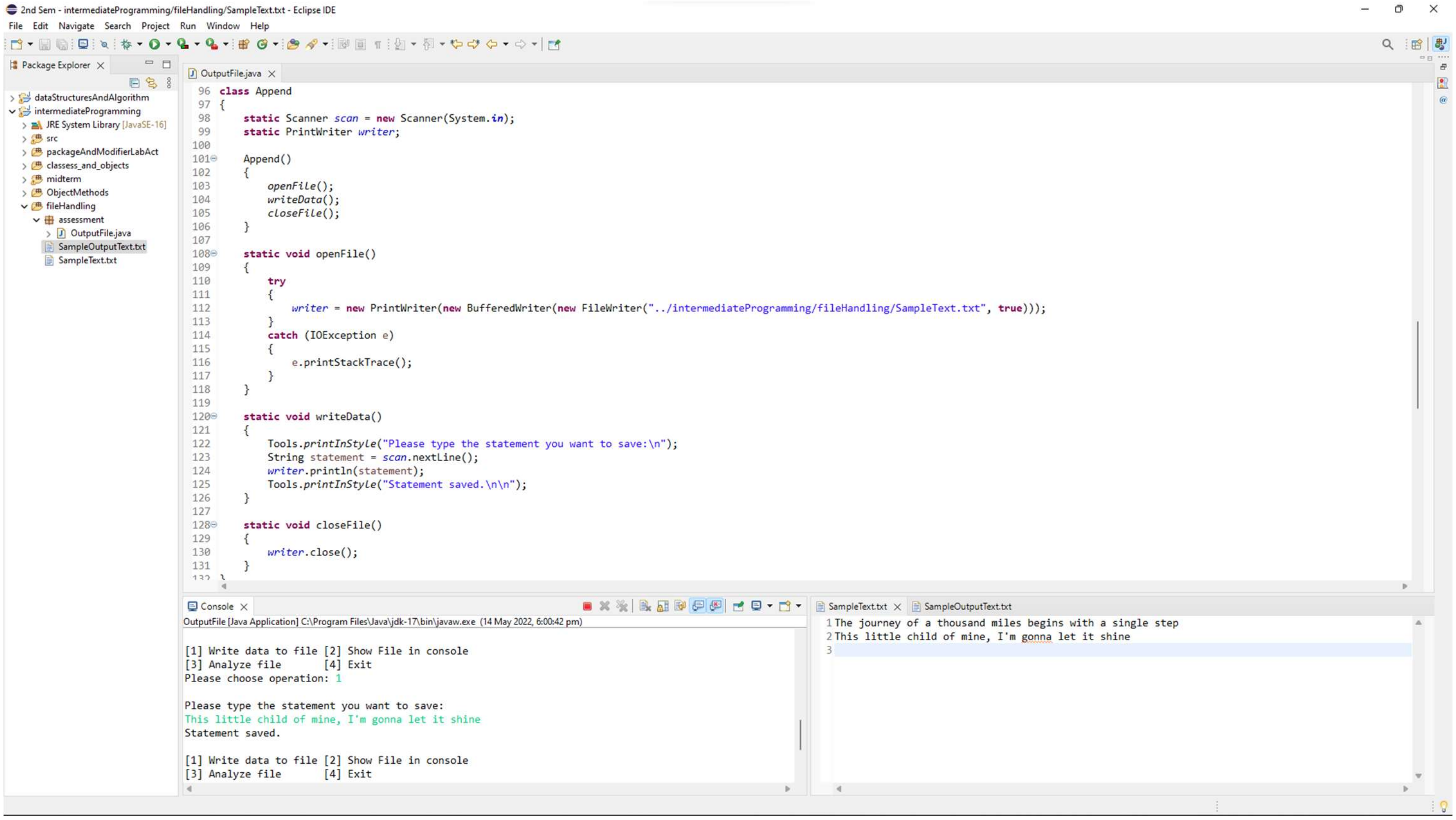
```
[1] Write data to file [2] Show File in console
[3] Analyze file       [4] Exit
Please choose operation: 3

Analyzation of file is stored to SampleOutputText.txt.

[1] Write data to file [2] Show File in console
[3] Analyze file       [4] Exit
Please choose operation: 2

Enter file name: SampleOutputText.txt
File length: 59
File path: ..\intermediateProgramming\fileHandling\SampleText.txt
Number of words: 11

[1] Write data to file [2] Show File in console
[3] Analyze file       [4] Exit
Please choose operation:
```



```
1 File length: 59
2 File path: ..\intermediateProgramming\fileHandling\SampleText.txt
3 Number of words: 11
4
```

4.

Append a new row data with the text **"This little light of mine, I'm gonna let it shine"** in **SampleText.txt** then follow the instruction in number 3. Take note that it should contain additional row data. (paste your solution with output here in console and text file)

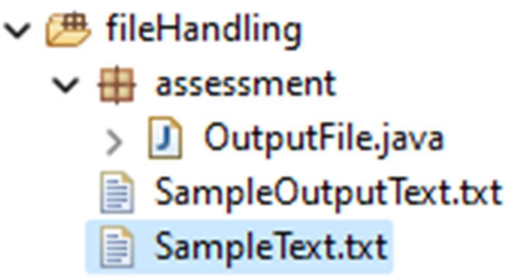

2nd Sem - intermediateProgramming/fileHandling/SampleText.txt - Eclipse IDE
File Edit Navigate Search Project Run Window Help
Package Explorer
OutputFile.java
Console
SampleText.txt
SampleOutputText.txt

```
dataStructuresAndAlgorithm
intermediateProgramming
    JRE System Library [JavaSE-16]
    src
    packageAndModifierLabAct
    classess_and_objects
    midterm
    ObjectMethods
    fileHandling
        assessment
            OutputFile.java
        SampleOutputText.txt
        SampleText.txt
```

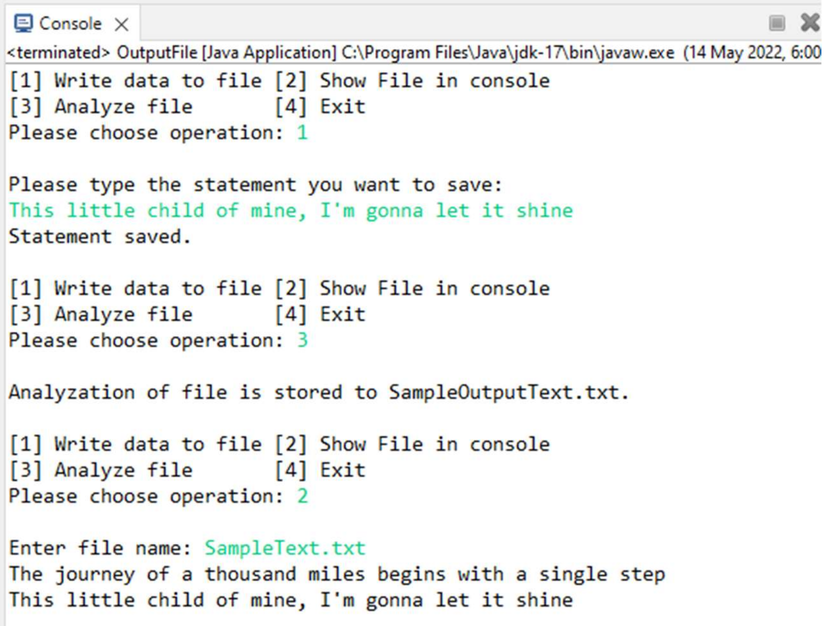
```java
class Append
{
    static Scanner scan = new Scanner(System.in);
    static PrintWriter writer;

    Append()
    {
        openFile();
        writeData();
        closeFile();
    }

    static void openFile()
    {
        try
        {
            writer = new PrintWriter(new BufferedWriter(new FileWriter("../intermediateProgramming/fileHandling/SampleText.txt", true)));
        }
        catch (IOException e)
        {
            e.printStackTrace();
        }
    }

    static void writeData()
    {
        Tools.printInStyle("Please type the statement you want to save:\n");
        String statement = scan.nextLine();
        writer.println(statement);
        Tools.printInStyle("Statement saved.\n\n");
    }

    static void closeFile()
    {
        writer.close();
    }
}
```

```
OutputFile [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe  (14 May 2022, 6:00:42 pm)

[1] Write data to file [2] Show File in console
[3] Analyze file       [4] Exit
Please choose operation: 1

Please type the statement you want to save:
This little child of mine, I'm gonna let it shine
Statement saved.

[1] Write data to file [2] Show File in console
[3] Analyze file       [4] Exit
```

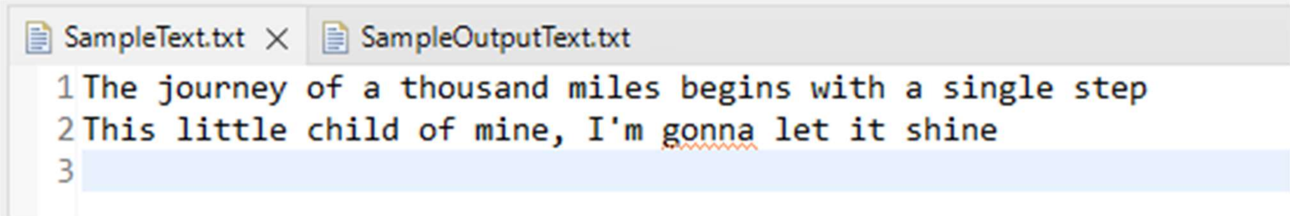
```
The journey of a thousand miles begins with a single step
This little child of mine, I'm gonna let it shine
```



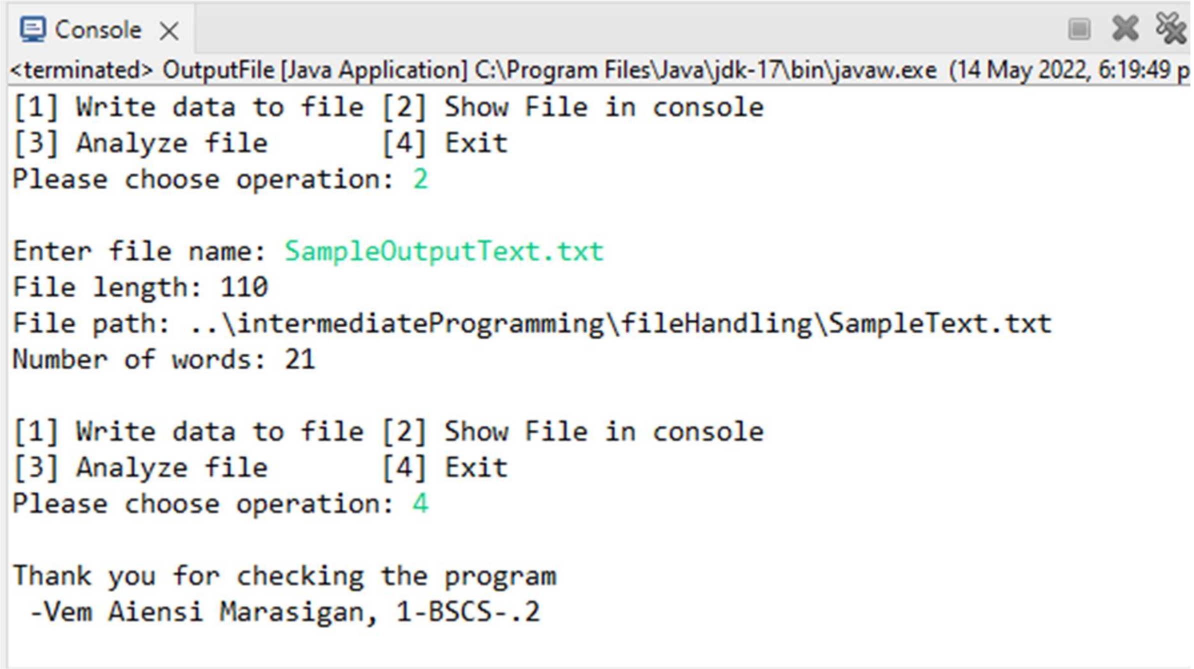
```
fileHandling
    assessment
        OutputFile.java
    SampleOutputText.txt
    SampleText.txt
```



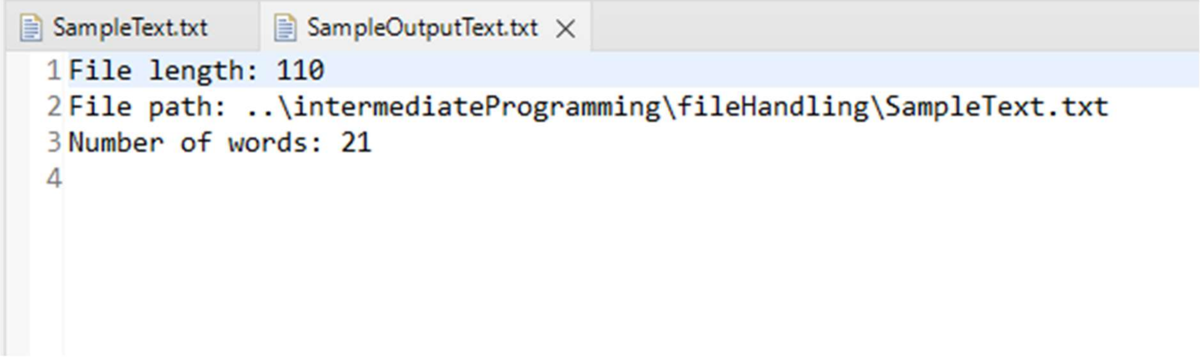
```
<terminated> OutputFile [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe  (14 May 2022, 6:00
[1] Write data to file [2] Show File in console
[3] Analyze file       [4] Exit
Please choose operation: 1

Please type the statement you want to save:
This little child of mine, I'm gonna let it shine
Statement saved.

[1] Write data to file [2] Show File in console
[3] Analyze file       [4] Exit
Please choose operation: 3

Analyzation of file is stored to SampleOutputText.txt.

[1] Write data to file [2] Show File in console
[3] Analyze file       [4] Exit
Please choose operation: 2

Enter file name: SampleText.txt
The journey of a thousand miles begins with a single step
This little child of mine, I'm gonna let it shine
```



```
The journey of a thousand miles begins with a single step
This little child of mine, I'm gonna let it shine

```



```
<terminated> OutputFile [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (14 May 2022, 6:19:49 p
[1] Write data to file [2] Show File in console
[3] Analyze file       [4] Exit
Please choose operation: 2

Enter file name: SampleOutputText.txt
File length: 110
File path: ..\intermediateProgramming\fileHandling\SampleText.txt
Number of words: 21

[1] Write data to file [2] Show File in console
[3] Analyze file       [4] Exit
Please choose operation: 4

Thank you for checking the program
 -Vem Aiensi Marasigan, 1-BSCS-.2
```



```
File length: 110
File path: ..\intermediateProgramming\fileHandling\SampleText.txt
Number of words: 21

```

SOURCE CODE

```
package assessment;

//Marasigan, Vem Aiensi A. | 1-BSCS-.2
import java.io.BufferedWriter;
import java.io.File;
import java.io.FileNotFoundException;
import java.io.FileReader;
import java.io.FileWriter;
import java.io.IOException;
import java.io.PrintWriter;
import java.util.Scanner;
import java.util.concurrent.TimeUnit;

public class OutputFile
{
      static Scanner scan = new Scanner(System.in);
      static int choice = 0;
      public static void main(String[] args)
      {
            optionLoop();
            Tools.end();
      }

      static void optionLoop()
      {
            System.out.print("[1] Write data to file [2] Show File in 
console\n"
                                 + "[3] Analyze file       [4] Exit\n"
                                 + "Please choose operation: ");
            choice = scan.nextInt();
            System.out.println();

            switch(choice)
            {
            case 1: new Append(); break;
            case 2: new ScanData(); break;
            case 3: new Analyze(); break;
            case 4: return;
            }
            optionLoop();
      }
}

class Analyze
{
      Analyze()
      {
            openFile();
            analyzeFile();
            close();
      }
      static Scanner scanner1;
      static PrintWriter writer;
      static File file;
      static String[] words;
      static String scannedText, statement;

      static void openFile()
      {
            try
            {
                  file = new File
("../intermediateProgramming/fileHandling/SampleText.txt");
                  scanner1 = new Scanner(new 
FileReader("../intermediateProgramming/fileHandling/SampleText.txt"));
                  writer = new 
PrintWriter("../intermediateProgramming/fileHandling/SampleOutputText.txt");
            }
            catch (FileNotFoundException e)
            {
                  System.out.println("File creation failed");
            }
      }

      static void analyzeFile()
      {
            scannedText = ""; //resets the data for a new fresh scan

            while(scanner1.hasNextLine())
            {
                  scannedText += scanner1.nextLine();
                  scannedText += " "; //essential for word separations
            }
            words = scannedText.split(" ");

            writer.println("File length: " + file.length());
            writer.println("File path: " + file.getPath());
            writer.println("Number of words: " + words.length);

            Tools.printInStyle("Analyzation of file is stored to
SampleOutputText.txt. \n\n");
      }

      static void close()
      {
            writer.close();
            scanner1.close();
      }
}

class Append
{
      static Scanner scan = new Scanner(System.in);
      static PrintWriter writer;

      Append()
      {
            openFile();
            writeData();
            closeFile();
      }

      static void openFile()
      {
            try
            {
                  writer = new PrintWriter(new BufferedWriter(new
FileWriter("../intermediateProgramming/fileHandling/SampleText.txt", true)));
            }
            catch (IOException e)
            {
                  e.printStackTrace();
            }
      }

      static void writeData()
      {
            Tools.printInStyle("Please type the statement you want to
save:\n");
            String statement = scan.nextLine();
            writer.println(statement);
            Tools.printInStyle("Statement saved.\n\n");
```

```
      }

      static void closeFile()
      {
            writer.close();
      }
}

class ScanData
{
      static Scanner scan;
      static Scanner scanInConsole = new Scanner(System.in);

      ScanData()
      {
            Tools.printInStyle("Enter file name: ");
            openFileScanner(scanInConsole.nextLine());
            scanFile();
            close();
      }

      static void openFileScanner(String fileName)
      {
            try
            {
                  scan = new Scanner(new
FileReader("../intermediateProgramming/fileHandling/"  + fileName));
            }
            catch (FileNotFoundException e)
            {
                  System.out.println("File is not found");
            }
      }

      static void scanFile()
      {
            while(scan.hasNextLine())
            {
                  Tools.printInStyle(scan.nextLine());
                  System.out.println();
            }
            System.out.println();
      }

      static void close()
      {
            scan.close();
      }
}

class Tools
{
      static void printInStyle(String s)
      {
            try
            {
```

```
            for (int count = 0; count<s.length(); count++)
            {
                System.out.print(s.charAt(count));
                TimeUnit.MILLISECONDS.sleep(20);
            }
        }
        catch (Exception e)
        {

        }
    }

    static void end()
    {
        printInStyle("Thank you for checking the program\n"
                + " -Vem Aiensi Marasigan, 1-BSCS-.2");
    }
}
```

VIDEO FOR RUNNING:
https://drive.google.com/file/d/1l_ihL1HAUUjiZ_HafxlINRi4CjvrcSr4/view?usp=sharing