SET B Debugging

1. public class Counter {

private int count = 0;

public void increment() {

count++;

}

public int getCount() {

return count;

}

}

public class Test {

public static void main(String[] args) {

Counter counter = new Counter();

while (counter.getCount() < 10) {

counter.increment();

}

System.out.println("Counter reached: " + counter.getCount());

}

}

⚠ Issue: Static field not retaining value across instances.

✅ Solution: Check singleton implementation for proper instance handling.

```java
class Counter {
    private static int count = 0;
    public void increment() {
        count++;
    }
    public int getCount() {
        return count;
    }
}
public class Test {
    public static void main(String[] args) {
        Counter counter = new Counter();
        while (counter.getCount() < 10) {
            counter.increment();
        }
        System.out.println("Counter reached: " + counter.getCount());
    }
}
```

```
java -cp /tmp/IQUOpTKZkq/Test
Counter reached: 10

=== Code Execution Successful ===
```

2. public class Employee {

private String name;

public Employee(String name) {

this.name = name;

}

public String getName() {

return name;

}

}

public class Test {

public static void main(String[] args) {

Employee e = new Employee("John");

System.out.println(e.name); // Compilation error

}

}

⚠ Issue: Direct access to private field name.

✅ Solution: Use getter method getName() to access private fields.

```
class Employee {
    private String name;

    public Employee(String name) {
        this.name = name;
    }

    public String getName() {
        return name;
    }
}

public class Test {
    public static void main(String[] args) {
        Employee e = new Employee("John");
        System.out.println(e.getName());
}
}
```

```
John

=== Code Execution Successful ===
```

3. Question: Why is the FileNotFoundException not being caught when trying to open a file?

⚠ Potential Issue: Make sure the FileInputStream or FileReader is enclosed in a try-

catch block.

public class FileOpener {

public void openFile(String filePath) {

try {

FileReader fileReader = new FileReader(filePath);

BufferedReader br = new BufferedReader(fileReader);

String line;

while ((line = br.readLine()) != null) {

System.out.println(line);

}

br.close();

} catch (FileNotFoundException e) {

System.out.println("File not found: " + filePath);

} catch (IOException e) {

e.printStackTrace();

}

}

}

public class TestFileOpener {

public static void main(String[] args) {

FileOpener opener = new FileOpener();

opener.openFile("missingfile.txt");

}

}

```java
import java.io.*;

 class FileOpener {
    public void openFile(String filePath) {
        try {
            FileReader fileReader = new FileReader(filePath);
            BufferedReader br = new BufferedReader(fileReader);
            String line;
            while ((line = br.readLine()) != null) {
                System.out.println(line);
            }
            br.close();
        } catch (FileNotFoundException e) {
            System.out.println("File not found: " + filePath);
        } catch (IOException e) {
            e.printStackTrace();
        }
    }
}

public class TestFileOpener {
    public static void main(String[] args) {
        FileOpener opener = new FileOpener();
        opener.openFile("missingfile.txt");
}
}
```

```
java -cp /tmp/7tFE4V1X1H/TestFileOpener
File not found: missingfile.txt

=== Code Execution Successful ===
```

4. Question: Why is my array not printing the correct values?

 Potential Issue: Ensure the array values are set correctly before printing.

```
public class PrintArray {

public static void main(String[] args) {
int[] numbers = new int[3];
numbers[0] = 10;
numbers[1] = 20;
numbers[2] = 30;
for (int num : numbers) {
System.out.println(num);
}
}
```

```
public class PrintArray {
    public static void main(String[] args) {
        int[] numbers = new int[3];
        numbers[0] = 10;
        numbers[1] = 20;
        numbers[2] = 30;
        for (int num : numbers) {
            System.out.println(num);
        }
    }
}
```

```
java -cp /tmp/MU7XxL5aJQ/PrintArray
10
20
30

=== Code Execution Successful ===
```