# DigitExtractor Mastery ErrorLog

Foreword: Screenshots were taken on both my home and school computer, hence the difference between the package in some of the screenshots.

Below is the first rendition of the TestDigitExtractor class:

```java
package skibidi;

import java.util.Scanner;

public class TestDigitExtractor {

    //Object that returns user input
    public static int number() {
        @SuppressWarnings("resource")
        //Prepare for user input
        Scanner userInput = new Scanner(System.in);
        //Record user input
        int value = userInput.nextInt();
        //Returns user input
        return value;
    }

    public static int choice() {
        @SuppressWarnings("resource")
        //Prepare for user input
        Scanner userInput = new Scanner(System.in);
        //Record user input
        int choice = userInput.nextInt();
        //Returns user input
        return choice;
    }

    public static void main(String[] args) {
        //Prompt user for input
        System.out.println("Enter an integer: ");
        int value = number();

        String input = "";

        //Loops while input is not 0
        while (input != "Q") {
        //Prompt user for input
        System.out.println("Show (W)hole number.");
        System.out.println("Show (O)nes place number.");
        System.out.println("Show (T)ens place number");
        System.out.println("Show(H)undreds place number");
        System.out.println("(Q)uit.");
        System.out.println("Enter your choice: ");

        //Calls PiggyBank Object from MySavings Class with the input variable
        DigitExtractor.Num(value, input);

        }

    }
}
```

There was a major logic error within the code, as I never initialize the input variable past its declaration, the while loop repeats infinitely prompting the user for input.

Below is the first rendition of the DigitExtractor class:

```
package skibidi;

public class DigitExtractor {

    public static void Num(int number, String choice) {

        int hundreds = number / 100;

        int tens = number / 10 % 10;

        int ones = number % 10;

        if (choice == "W") {
            System.out.println("The hundreds place digit is: " + hundreds);
        } else if (choice == "T") {
            System.out.println("The tens place digit is: " + tens);
        } else if (choice == "O") {
            System.out.println("The ones place digit is: " + ones);
        }

    }
}
```

The if else if statement isn't formatted properly, and is missing the ability to print the entire number, - a logic error.

Below is the second rendition of the TestDigitExtractor class:

```java
package skibidi;

import java.util.Scanner;

public class TestDigitExtractor {

    //Object that returns user input
    public static int number() {
        @SuppressWarnings("resource")
        //Prepare for user input
        Scanner userInput = new Scanner(System.in);
        //Record user input
        int value = userInput.nextInt();
        //Returns user input
        return value;
    }

    public static String choice() {
        @SuppressWarnings("resource")
        //Prepare for user input
        Scanner userInput = new Scanner(System.in);
        //Record user input
        String choice = userInput.nextLine();
        //Returns user input
        return choice;
    }

    public static void main(String[] args) {
        //Prompt user for input
        System.out.print("Enter an integer: ");
        int value = number();

        //Declares new variable input
        String input = "";

        //Loops while input is not 0
        while (input != "Q") {

            //Prompt user for input
            System.out.println("Show (W)hole number.");
            System.out.println("Show (O)nes place number.");
            System.out.println("Show (T)ens place number");
            System.out.println("Show (H)undreds place number");
            System.out.println("(Q)uit.");
            System.out.print("Enter your choice: ");

            //Declares input variable as the return of the number() object
            input = choice();

            //Calls Num Object from DigitExtractor Class with the value and string input
            DigitExtractor.Num(value, input);

        }
```

I fixed the logic error by initializing the input variable within the while loop, by using the updated choice() method.

Below is the second rendition of the DigitExtractor class

```java
package skibidi;

public class DigitExtractor {

    public static void Num(int number, String choice) {

        int hundreds = number / 100;

        int tens = number / 10 % 10;

        int ones = number % 10;

        if (choice == "W") {
            System.out.println("The number is: " + number);
        } else if (choice == "H") {
            System.out.println("The hundreds place digit is: " + hundreds);
        } else if (choice == "T") {
            System.out.println("The tens place digit is: " + tens);
        } else if (choice == "O") {
            System.out.println("The ones place digit is: " + ones);
        }

    }

}
```

I fixed the logic errors by updating the if else if statement to include the required conditions.

Below is the third rendition of the TestDigitExtractor class

```java
package skibidi;

import java.util.Scanner;

public class TestDigitExtractor {

    //Object that returns user input
    public static int number() {
        @SuppressWarnings("resource")
        //Prepare for user input
        Scanner userInput = new Scanner(System.in);
        //Record user input
        int value = userInput.nextInt();
        //Returns user input
        return value;
    }

    public static String choice() {
        @SuppressWarnings("resource")
        //Prepare for user input
        Scanner userInput = new Scanner(System.in);
        //Record user input
        String choice = userInput.nextLine();
        //Returns user input
        return choice.toLowerCase();
    }

    public static void main(String[] args) {
        //Prompt user for input
        System.out.print("Enter an integer: ");
        int value = number();

        //Declares new variable input
        String input = "";

        //Loops while input is not 0
        while (input != "Q") {

            //Prompt user for input
            System.out.println("Show (W)hole number.");
            System.out.println("Show (O)nes place number.");
            System.out.println("Show (T)ens place number");
            System.out.println("Show (H)undreds place number");
            System.out.println("(Q)uit.");
            System.out.print("Enter your choice: ");

            //Declares input variable as the return of the number() object
            input = choice();

            //Calls Num Object from DigitExtractor Class with the value and string input
            DigitExtractor.Num(value, input);

        }
```

I resolved a possible logic error by returning a lowercase string in the choice() object by using the .toLowerCase(); method. This way capitalization doesn't matter.

Below is the third rendition of the DigitExtractor class

```java
package skibidi;

public class DigitExtractor {

    public static void Num(int number, String choice) {

        int hundreds = number / 100;

        int tens = number / 10 % 10;

        int ones = number % 10;

        if (choice == "w") {
            System.out.println("The number is: " + number);
        } else if (choice == "h") {
            System.out.println("The hundreds place digit is: " + hundreds);
        } else if (choice == "t") {
            System.out.println("The tens place digit is: " + tens);
        } else if (choice == "o") {
            System.out.println("The ones place digit is: " + ones);
        }

    }

}
```

I updated the if else if conditions so that they worked with the new lowercase return.

Below is the final rendition of the TestDigitExtractor class

```java
package skibidi;

import java.util.Scanner;

public class TestDigitExtractor {

    //Object that returns user input
    public static int number() {
        @SuppressWarnings("resource")
        //Prepare for user input
        Scanner userInput = new Scanner(System.in);
        //Record user input
        int value = userInput.nextInt();
        //Returns user input
        return value;
    }

    public static String choice() {
        @SuppressWarnings("resource")
        //Prepare for user input
        Scanner userInput = new Scanner(System.in);
        //Record user input
        String choice = userInput.nextLine();
        //Returns user input
        return choice.toLowerCase();
    }

    public static void main(String[] args) {
        //Prompt user for input
        System.out.print("Enter an integer: ");
        int value = number();

        //Declares new variable input
        String input;
        input = " ";

        //Loops while input is not 0
        while (!input.equals("q")) {

            //Prompt user for input
            System.out.println("Show (W)hole number.");
            System.out.println("Show (O)nes place number.");
            System.out.println("Show (T)ens place number");
            System.out.println("Show (H)undreds place number");
            System.out.println("(Q)uit.");
            System.out.print("Enter your choice: ");

            //Declares input variable as the return of the number() object
            input = choice();

            //Calls Num Object from DigitExtractor Class with the value and string input
            DigitExtractor.Num(value, input);
```

I fixed the logic error that had been included from the beginning by using .equals() instead of '=' to compare strings, and changed the condition to lowercase, preventing an logic error with the .toLowerCase() method.

Below is the final rendition of the DigitExtractor class

```
package skibidi;

public class DigitExtractor {

    public static void Num(int number, String choice) {

        int hundreds = number / 100;

        int tens = number / 10 % 10;

        int ones = number % 10;

        if (choice.equals("w")) {
            System.out.println("The number is: " + number);
        } else if (choice.equals("h")) {
            System.out.println("The hundreds place digit is: " + hundreds);
        } else if (choice.equals("t")) {
            System.out.println("The tens place digit is: " + tens);
        } else if (choice.equals("o")) {
            System.out.println("The ones place digit is: " + ones);
        }
    }

}
```

I changed the '=' to .equals(), now the conditions in the if else if statement are able to be met.