Credit Name: CSE 3120 Object-Oriented Programming 1
Assignment Name: DigitExtractor

Decribe the errors you've encountered while working on this assignment. What caused the error and how do you overcome the error?

```
    //Display total value of the coins in the user's currect piggy bank.
    case w: System.out.println("The hundreds place digit is: " + num1.getHundreds());break;

    }
```

Syntax error. There were no parenthesis around the case expression w, leading to an error.

```
//Display whole number
case "w": System.out.println("The whole number is: " + num1.getWhole());break;
```

Added " " to correct error, and make the switch case valid.

```
Welcome to the DigitExtractor application.

Please enter an integer:
234

show (W)hole place number.
show (O)nes place number.
show (T)ens palce number
show (H)undreds place number
(Q)uit program

Please enter your choice to continue: w

The whole number is: 234

show (W)hole place number.
show (O)nes place number.
show (T)ens palce number
show (H)undreds place number
(Q)uit program

Please enter your choice to continue: o

The ones place digit is: 234

show (W)hole place number.
show (O)nes place number.
show (T)ens palce number
show (H)undreds place number
(Q)uit program

Please enter your choice to continue: h

The hundreds place digit is: 23

show (W)hole place number.
show (O)nes place number.
show (T)ens palce number
show (H)undreds place number
(Q)uit program

Please enter your choice to continue:
```

```
package Mastery;


public class Num {

    //Initialize private variables
    private int number, ones, tens, hundreds;

    public Num() { //default constructor
        number = 0; //Initialize variable as 0

    }

    public Num(int newNum) {
    //overload the default constructor method
        number = newNum;
    }

    //Accesser methods:

    //Calculate hundreds place number
    public int getHundreds() {
        hundreds = number / 10;
        return hundreds;
    }

    //calculate tens place number
    public int getTens() {
        tens = (number - (hundreds*100))/ 10;
        return tens;
    }

    //calculate ones place number
    public int getOnes() {
        ones = (number - ((hundreds*100)+(tens*10)));
        return ones;
    }

    //return whole number
    public int getWhole() {
        return number;
    }
```

The values for the hundreds, ones, and tens place were not correct.

```
Welcome to the DigitExtractor application.

Please enter an integer:
435

show (W)hole place number.
show (O)nes place number.
show (T)ens palce number
show (H)undreds place number
(Q)uit program

Please enter your choice to continue: 1

Invalid. Please enter a valid choice

show (W)hole place number.
show (O)nes place number.
show (T)ens palce number
show (H)undreds place number
(Q)uit program

Please enter your choice to continue: w

The whole number is: 435

show (W)hole place number.
show (O)nes place number.
show (T)ens palce number
show (H)undreds place number
(Q)uit program

Please enter your choice to continue: o

The ones place digit is: 435

show (W)hole place number.
show (O)nes place number.
show (T)ens palce number
show (H)undreds place number
(Q)uit program

Please enter your choice to continue: h

The hundreds place digit is: 4

show (W)hole place number.
show (O)nes place number.
show (T)ens palce number
show (H)undreds place number
(Q)uit program

Please enter your choice to continue: t

The tens place digit is: 3

show (W)hole place number.
show (O)nes place number.
show (T)ens palce number
show (H)undreds place number
(Q)uit program

Please enter your choice to continue:
```

```
public int getHundreds() {
    hundreds = number / 100;
    return hundreds;
}
```

Fixed hundreds place by correcting the mathimatical calculations. However, the ones place was still wrong.

```
    //Initialize private variables
    private int number, ones, tens, hundreds;

    public Num() { //default constructor
        number = 0; //Initialize variable as 0
        placeValues();
    }

    public Num(int newNum) {
    //overload the default constructor method
        number = newNum;
        placeValues();
    }

    //Calculate place values
    public void placeValues() {
        hundreds = number / 100;
        tens = (number % 100)/ 10;
        ones = (number % 10);
    }

    //Accesser methods:
    public int getHundreds() { //hundreds place number
        return hundreds;
    }

    public int getTens() { //tens place number
        return tens;
    }


    public int getOnes() { // ones place number
        return ones;
    }

    public int getWhole() { //whole number
        return number;
    }
```

Changed all the methods to create one place value method instead that did not use the other variables to calculate the values
The issue from the original methods were from the use of variables that only changed within the other methods, but remained as 0 when used in the originals.