MetricConversion Mastery ReflectionLog

There weren't any substantial changes I had made over the course of creating this program, each method is nearly identical to each other, with a different equation in each one.

Within the main method the program prompts the user for which conversion type they desire, the input is then run through a switch which calls the appropriate method.

```
public static void main(String[] args) {
    //Preparing for user input
    Scanner userInput = new Scanner(System.in);

    //Prints available conversions
    System.out.println("1. Inches > Centimeters");
    System.out.println("2. Centimeters > Inches");
    System.out.println("3. Feet > Centimeters");
    System.out.println("4. Centimeters > Feet");
    System.out.println("5. Yards > Meters");
    System.out.println("6. Meters > Yards");
    System.out.println("7. Miles > Kilometers");
    System.out.println("8. Kilometers > Miles");

    //Prompt and record user input
    System.out.print("Enter a operator: ");
    int operator = userInput.nextInt();

    //Calls method corresponding to user input
    switch(operator) {
    case 1:
        inToCm();
        break;
    case 2:
        cmToIn();
        break;
    case 3:
        ftToCm();
        break;
    case 4:
        cmToFt();
        break;
    case 5:
        ydToM();
        break;
    case 6:
        mToYd();
        break;
    case 7:
        miToKm();
        break;
    case 8:
        kmToMi();
        break;
    }

}
```

Each method contains nearly identical code, it declares the answer and input, prompts the user for the number of units to convert, calculates accordingly, and then prints the answer.

```
package Mastery;

import java.util.Scanner;

public class MetricConversion {

    static void inToCm() {
        //Preparing for user input
        Scanner userInput = new Scanner(System.in);

        //Declaration
        double centimeters;

        //Prompt and record user input
        System.out.print("Enter number of inches: ");
        double inches = userInput.nextDouble();

        //Calculate conversion
        centimeters = inches * 2.54;

        //Print conversion
        System.out.print(inches + " inches equals " + centimeters + " centimeters.");
    }

    static void cmToIn() {
        //Preparing for user input
        Scanner userInput = new Scanner(System.in);

        //Declaration
        double inches;

        //Prompt and record user input
        System.out.print("Enter number of centimeters: ");
        double centimeters = userInput.nextDouble();

        //Calculate conversion
        inches = centimeters / 2.54;

        //Print conversion
        System.out.print(centimeters + " centimeters equals " + inches + " inches.");
    }
```

```java
static void ftToCm() {
    //Preparing for user input
    Scanner userInput = new Scanner(System.in);

    //Declaration
    double centimeters;

    //Prompt and record user input
    System.out.print("Enter number of feet: ");
    double feet = userInput.nextDouble();

    //Calculate conversion
    centimeters = feet * 30;

    //Print conversion
    System.out.print(feet + " feet equals " + centimeters + " centimeters.");
}

static void cmToFt() {
    //Preparing for user input
    Scanner userInput = new Scanner(System.in);

    //Declaration
    double feet;

    //Prompt and record user input
    System.out.print("Enter number of centimeters: ");
    double centimeters = userInput.nextDouble();

    //Calculate conversion
    feet = centimeters / 30;

    //Print conversion
    System.out.print(centimeters + " centimeters equals " + feet + " feet.");
}

static void ydToM() {
    //Preparing for user input
    Scanner userInput = new Scanner(System.in);

    //Declaration
    double meters;

    //Prompt and record user input
    System.out.print("Enter number of yards: ");
    double yards = userInput.nextDouble();

    //Calculate conversion
    meters = yards * 0.91;

    //Print conversion
    System.out.print(yards + " yards equals " + meters + " meters.");
```

```java
static void mToYd() {
    //Preparing for user input
    Scanner userInput = new Scanner(System.in);

    //Declaration
    double yards;

    //Prompt and record user input
    System.out.print("Enter number of meters: ");
    double meters = userInput.nextDouble();

    //Calculate conversion
    yards = meters / 0.91;

    //Print conversion
    System.out.print(meters + " meters equals " + yards + " yards.");
}

static void miToKm() {
    //Preparing for user input
    Scanner userInput = new Scanner(System.in);

    //Declaration
    double kilometers;

    //Prompt and record user input
    System.out.print("Enter number of miles: ");
    double miles = userInput.nextDouble();

    //Calculate conversion
    kilometers = miles * 1.6;

    //Print conversion
    System.out.print(miles + " miles equals " + kilometers + " kilometers.");
}

static void kmToMi() {
    //Preparing for user input
    Scanner userInput = new Scanner(System.in);

    //Declaration
    double miles;

    //Prompt and record user input
    System.out.print("Enter number of kilometers: ");
    double kilometers = userInput.nextDouble();

    //Calculate conversion
    miles = kilometers / 1.6;

    //Print conversion
    System.out.print(kilometers + " kilometers equals " + miles + " miles.");
```