ReflectionLog: MetricConversion

Youdis

```
package Mastery;
import java.util.Scanner;
public class MetricConversion {
    //Methods
    //Converts inches to Cm by taking parameter of inches and returns centimeters
    public static double inToCm(double inches) {

    return inches * 2.54;
    }
    //Converts feet to Cm by taking parameter of feet and returns centimeters
    public static double feetToCm(double feet) {

    return feet * 30;
    }
    //Converts yards to meters by taking parameter of yards and returns meters
    public static double ydsToM(double yards) {

    return yards * 0.91;
    }
    //Converts miles to kilometers by taking parameter of kilometers and returns kilometers
    public static double mileToKm(double miles) {

    return miles * 1.6;
    }
    //Converts Cm to inches by taking parameter of cm and returns inches
    public static double cmToIn(double cm) {

    return cm / 2.54;
    }
    //Converts Cm to feet by taking parameter of cm and returns feet
    public static double cmToFt(double cm) {

    return cm / 30;
    }
    //Converts meters to yards by taking parameter of meters and returns yards
    public static double mToYds(double meters) {

    return meters / 0.91;
    }
    //converts kilometers to miles by taking parameter of kilometers and returns miles
    public static double kmToMile(double km) {

    return km / 1.6;
    }
```

All methods which take on parameters and return the parameter converted into another unit.(Ex: kilometers to miles takes parameters of miles and returns the amount of miles the kilometers would equate to.)

```
public static void main(String[] args) {
    // TODO Auto-generated method stub
    //ask user to enter number of unit they want to convert and record answer
    DecimalFormat formatter = new DecimalFormat("#.##");
    Scanner Input = new Scanner(System.in);
    System.out.print("Enter a number: ");
    int valueToConvert = Input.nextInt();
    //gives user options on which units to convert and record their answer
    System.out.print("1.Inches to Centimeters");
    System.out.println("   5.Centimeters to Inches");
    System.out.print("2.Feet to Centimeters");
    System.out.println("     6.Centimeters to Feet");
    System.out.print("3.Yards to Meters");
    System.out.println("         7.Meters to Yards");
    System.out.print("4.Miles to Kilometers");
    System.out.println("     8.Kilometers to Miles");

    System.out.print("Enter your choice: ");
    int choice = Input.nextInt();
```

Will prompt the user of what number they want to convert, record that, and then will prompt the user with 8 conversion options. Then will prompt user to enter number of the conversion method they want to use.

```
//will use method depending on their answer and use the amount of unit they entered first as parameter to be converted
switch (choice) {

case 1:
    System.out.println(valueToConvert + " inches equals " + formatter.format(inToCm(valueToConvert)) + " centimeters");
    break;

case 2:
    System.out.println(valueToConvert + " feet equals " + formatter.format(feetToCm(valueToConvert)) + " centimeters");

    break;

case 3:
    System.out.println(valueToConvert + " yards equals " + formatter.format(ydsToM(valueToConvert)) + " meters");

    break;

case 4:
    System.out.println(valueToConvert + " miles equals " + formatter.format(mileToKm(valueToConvert)) + " kilometers");

    break;

case 5:
    System.out.println(valueToConvert + " centimeters equals " + formatter.format(cmToIn(valueToConvert)) + " inches");

    break;

case 6:
    System.out.println(valueToConvert + " centimeters equals " + formatter.format(cmToFt(valueToConvert)) + " feet");
    break;

case 7:
    System.out.println(valueToConvert + " meters equals " + formatter.format(mToYds(valueToConvert)) + " yards");

    break;

case 8:
    System.out.println(valueToConvert + " kilometers equals " + formatter.format(kmToMile(valueToConvert)) + " miles");
    break;
```

Will take the choice the user picks and uses the method corresponding to that choice. Then will enter the number the user wants to convert as the parameter, and will output how much of the unit the user had first and how much it is in the unit they converted it into.