

Reflection Log MetricConversions

```
public static void main(String[] args) {  
    Scanner scanner = new Scanner(System.in);  
    int choice = 0;
```

The code sets up a Java program with a main method that initializes a scanner for user input and declares an integer variable called choice, starting at 0.

```
while (choice != 9) {  
    displayMenu();  
    choice = scanner.nextInt();
```

The code runs a loop that continuously displays a menu and prompts the user for input until the user enters the number 9, which likely indicates the intention to exit the program.

```
if (choice >= 1 && choice <= 8) {  
    System.out.print("Enter your value!: ");  
    double value = scanner.nextDouble();  
    double result = convert(choice, value);  
    System.out.println("Result is: " + result);  
}
```

The code checks if the variable choice is between 1 and 8. If it is, it prompts the user to enter a value, reads that value as a double, and then calls a convert method to process the input based on the user's choice. After, it displays the users desired conversion value.

```
public static void displayMenu() {  
    System.out.println("Metric Conversion Menu/Chart!");  
    System.out.println("1. inches to centimeters");  
    System.out.println("2. centimeters to inches");  
    System.out.println("3. feet to centimeters");  
    System.out.println("4. centimeters to feet");  
    System.out.println("5. yards to meters");  
    System.out.println("6. meters to yards");  
    System.out.println("7. miles to kilometers");  
    System.out.println("8. kilometers to miles");  
    System.out.print("Please choose your desired option number 1-8: ");  
}
```

The code defines a method called `displayMenu()` that prints a list of metric conversion options, prompting the user to choose a conversion type by entering a number from 1 to 8.

```
public static double convert(int choice, double value) {  
    switch (choice) {  
  
        case 1: return value * 2.54; // Inches to Centimeters  
        case 2: return value / 2.54; // Centimeters to Inches  
        case 3: return value * 30.48; // Feet to Centimeters  
        case 4: return value / 30.48; // Centimeters to Feet  
        case 5: return value * 0.9144; // Yards to Meters  
        case 6: return value / 0.9144; // Meters to Yards  
        case 7: return value * 1.6093; // Miles to Kilometers  
        case 8: return value / 1.6093; // Kilometers to Miles  
  
    }  
    return value;  
}
```

The code defines a `convert()` method that takes a user's choice and a numeric value, performing specific metric conversions based on the choice, such as inches to centimeters or miles to kilometers, and returns the converted value.