*Credit Name: CSE 2110 Procedural Programming 1*

*Assignment: MetricConversion*

*How has your program changed from planning to coding to now? Please Explain*

```java
//method for inches to centimeters conversion
public static void inchestoCentimeters(double num)
{
    double cm;
    DecimalFormat df = new DecimalFormat("0.00");

    cm = 2.54*num;

    System.out.print(num+ " inches equals "+df.format(cm)+ " centimeters ");
}
```

*I created a method for each individual conversion type. They all take in 1 parameter which is a double, because measurements can be measured to a large degree of accuracy. I have added a decimal format of 2 decimal places so that the final conversion yields an accurate but shorter answer. I then did the conversion by searching up the factor by which each measurement differs. Then I ended with a print statement to state the measurement after conversion.*

```java
22    public static void inchestoCentimeters(double num)
23    {
24        double cm;
25        DecimalFormat df = new DecimalFormat("0.00");
26
27        cm = 2.54*num;
28
29        System.out.print(num+ " inches equals "+df.format(cm)+ " centimeters ");
30    }
31
32    //method for feet to centimeters conversion
33    public static void feettoCentimeters(double num)
34    {
35        double cm;
36        DecimalFormat df = new DecimalFormat("0.00");
37
38        cm = 30.48*num;
39
40        System.out.print(num+ " feet equals "+df.format(cm)+ " centimeters ");
41    }
42
43    //method for Yards to Meters conversion
44    public static void yardstoMeters(double num)
45    {
46        double m;
47        DecimalFormat df = new DecimalFormat("0.00");
48
49        m = 0.9144*num;
50
51        System.out.print(num+ " yards equals "+df.format(m)+ " meters ");
52    }
53
54    //method for miles to kilometers conversion
55    public static void milestoKilometers(double num)
56    {
57        double km;
58        DecimalFormat df = new DecimalFormat("0.00");
59
60        km = 1.6093*num;
61
62        System.out.print(num+ " miles equals "+df.format(km)+ " kilometers ");
63    }
64
```

*I repeated this process for each conversion.*

```java
//Main Method to access relevant conversion
public static void main(String[] args)
{
    double measurement;
    int choice;

    Scanner input = new Scanner(System.in);

    System.out.print("Enter the measurement you want to convert: ");
    measurement = input.nextDouble();

    System.out.println("Choose the conversion you want to do from the following:");
    System.out.println("1. Inches to Centimeters          5. Centimeters to Inches");
    System.out.println("2. Feet to Centimeters            6. Centimeters to Feet");
    System.out.println("3. Yards to Meters                7. Yards to Meters");
    System.out.println("4. Miles to Kilometers            8. Kilometers to Miles");

    choice = input.nextInt();

    input.close();
```

*In my main method I defined two variables, the measurement, a double which will be converted to the user's choice. Also my other variable is choice, an integer which highlights the particular conversion type the user selected.*

```java
switch (choice) {
case 1:
    inchestoCentimeters(measurement);break;
case 2:
    feettoCentimeters(measurement);break;
case 3:
    yardstoMeters(measurement);break;
case 4:
    milestoKilometers(measurement);break;
case 5:
    centimeterstoInches(measurement);break;
case 6:
    centimeterstoFeet(measurement);break;
case 7:
    meterstoYards(measurement);break;
case 8:
    kilometerstoMiles(measurement);break;
}
}
```

*Create a switch statement, with different cases for each choice. At each case call the respective method associated with it.*