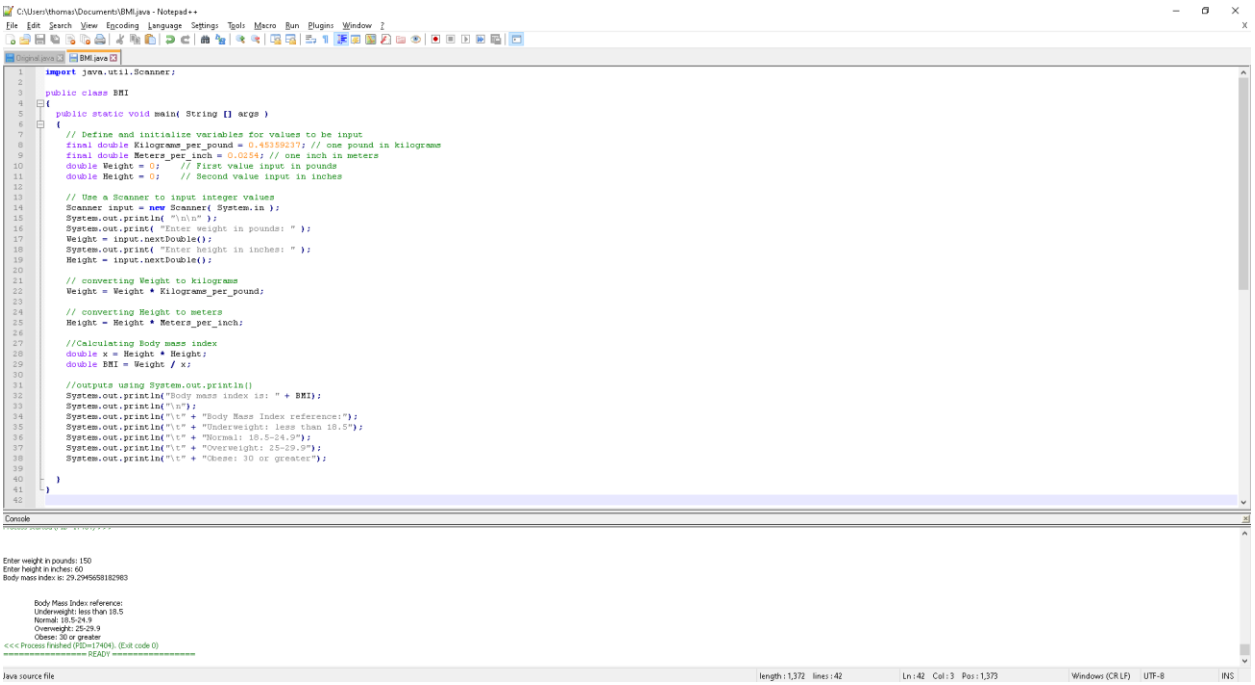
This design allows users to produce their body mass index by inputting their weight in pounds and height in inches. I started by defining the variables. Two variables I used final double because these were the exact values and weren't going to change through out the code. These values allowed for the conversion of weight from pounds to kilograms and height from inches to meters. I used the primitive data type double because it allows to show decimal values in a wide range. Once values were defined, I promoted the user to input values for their height in inches and weight in pounds by using the scanner sequence. Once I had the users input these values height would then be converted into meters and weight would be converted into kilograms by using the initialized variables in the beginning. After that I produced a X variable to square the height for the Body mass index equation. Then I took the weight and divided it by that variable to produce the body mass index. Then used System.out.println() to produce the output for the BMI and a small chart to compare there BMI to information from the department of health and human services.

```
/* Allows for user to display their Body mass index */
import java.util.Scanner;

public class BMI
{
   public static void main( String [] args )
  {
     // Define and initialize variables for values to be input
     final double KILOGRAMS_PER_POUND = 0.45359237; // one pound in kilograms
     final double METERS_PER_INCH = 0.0254; // one inch in meters
     double Weight = 0;    // First value input in pounds
     double Height = 0;    // Second value input in inches

     // Using a Scanner to input integer values
     Scanner input = new Scanner( System.in );
     System.out.println( "\n\n" );
     System.out.print( "Enter weight in pounds: " );
     Weight = input.nextDouble();
     System.out.print( "Enter height in inches: " );
     Height = input.nextDouble();

     // converting Weight to kilograms
     Weight = Weight * Kilograms_per_pound;
     // converting Height to meters
     Height = Height * Meters_per_inch;

     //Calculating Body mass index
     double x = Height * Height;
     double BMI = Weight / x;
     //outputs using System.out.println()
     System.out.println("Body mass index is: " + BMI);
     System.out.println("\n");
     System.out.println("\t" + "Body Mass Index reference:");
     System.out.println("\t" + "Underweight: less than 18.5");
     System.out.println("\t" + "Normal: 18.5-24.9");
     System.out.println("\t" + "Overweight: 25-29.9");
     System.out.println("\t" + "Obese: 30 or greater");
  } // end main
}
```


Command Prompt
Enter weight in pounds: 150
Enter height in inches: 70
Body mass index is: 21.52253815221916
Body Mass Index reference:
Underweight: less than 18.5
Normal: 18.5-24.9
Overweight: 25-29.9
Obese: 30 or greater


C:\Users\thomas\Documents\BMI.java - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
Original.java
BMI.java
import java.util.Scanner;
public class BMI
{
public static void main(String [] args)
{
// Define and initialize variables for values to be input
final double Kilograms_per_pound = 0.45359237; // one pound in kilograms
final double Meters_per_inch = 0.0254; // one inch in meters
double Weight = 0; // First value input in pounds
double Height = 0; // Second value input in inches
// Use a Scanner to input integer values
Scanner input = new Scanner(System.in);
System.out.println("\n\n");
System.out.print("Enter weight in pounds: ");
Weight = input.nextDouble();
System.out.print("Enter height in inches: ");
Height = input.nextDouble();
// converting Weight to kilograms
Weight = Weight * Kilograms_per_pound;
// converting Height to meters
Height = Height * Meters_per_inch;
//Calculating Body mass index
double x = Height * Height;
double BMI = Weight / x;
//outputs using System.out.println()
System.out.println("Body mass index is: " + BMI);
System.out.println("\n");
System.out.println("\t" + "Body Mass Index reference:");
System.out.println("\t" + "Underweight: less than 18.5");
System.out.println("\t" + "Normal: 18.5-24.9");
System.out.println("\t" + "Overweight: 25-29.9");
System.out.println("\t" + "Obese: 30 or greater");
}
}
Console
Enter weight in pounds: 150
Enter height in inches: 60
Body mass index is: 29.2945658182983
Body Mass Index reference:
Underweight: less than 18.5
Normal: 18.5-24.9
Overweight: 25-29.9
Obese: 30 or greater
<<< Process finished (PID=17404). (Exit code 0)
READY
Java source file
length : 1,372 lines : 42
Ln : 42 Col : 3 Pos : 1,373
Windows (CR LF)
UTF-8
INS