```java
 1   /*-----------------------------------------------------------------------------------------------
 2    * Author:      Dan Cassidy
 3    * Date:        2015-07-24
 4    * Assignment:  HW6-1
 5    * Source File: BMICalculator.java
 6    * Language:    Java
 7    * Course:      CSCI-C 490, Android Programming, MoWe 08:00
 8    -----------------------------------------------------------------------------------------------*/
 9   package dancassidy.bmicalculator;
10
11   /**
12    * A class to calculate a person's body mass index (BMI).
13    *
14    * @author Dan Cassidy
15    */
16   public class BMICalculator {
17       private double weight = 0;
18       private double height = 0;
19       private double bmi = 0;
20       boolean metric = true;
21
22       // BEGIN GETTERS AND SETTERS -->
23       public double getBMI() {
24           return this.bmi;
25       }
26
27       public double getHeight() {
28           return this.height;
29       }
30
31       public void setHeight(double height) {
32           if (height >= 0) {
33               this.height = height;
34               calculateBMI();
35           }
36       }
37
38       public double getWeight() {
39           return this.weight;
40       }
41
42       public void setWeight(double weight) {
43           if (weight >= 0) {
44               this.weight = weight;
45               calculateBMI();
46           }
47       }
48
49       public boolean getMetric() {
50           return metric;
51       }
52
53       public void setMetric(boolean metric) {
54           if (this.metric ^ metric) {
55               if (this.metric) {
56                   this.height = UnitConversion.lengthMetersToInches(this.height);
57                   this.weight = UnitConversion.weightKilogramsToPounds(this.weight);
58               } else {
59                   this.height = UnitConversion.lengthInchesToMeters(this.height);
60                   this.weight = UnitConversion.weightPoundsToKilograms(this.weight);
```

```
61                  }
62                  this.metric = metric;
63                  calculateBMI();
64              }
65          }
66          // <-- END GETTERS AND SETTERS
67
68          /**
69           * Helper method to calculate the BMI.
70           */
71          private void calculateBMI() {
72              if (this.height == 0)
73                  this.bmi = 0;
74              else if (this.metric)
75                  this.bmi = this.weight / (this.height * this.height);
76              else
77                  this.bmi = (this.weight * 703) / (this.height * this.height);
78          }
79      }
80
```