Programming exercise:

**Fitbyte**

Points

1/1

[The Karvonen method](https://en.wikipedia.org/wiki/Heart_rate#Karvonen_method) allows you to calculate your target heart rate for physical exercise. The target heart rate is calculated with the formula (maximum heart rate - resting heart rate) \* (target heart rate percentage) + resting heart rate, where the target heart rate is given as a percentage of the maximum heart rate.

For example, if a person has a maximum heart rate of 200, a resting heart rate of 50, and a target heart rate of 75% of the maximum heart rate, the target heart rate should be about ((200-50) \* (0.75) + 50), i.e., 162.5 beats per minute.

Create a class called Fitbyte. Its constructor takes both an age and a resting heart rate as its parameters. The exercise assistant should provide a method targetHeartRate, which is passed a number of type double as a parameter that represents a percentual portion of the maximum heart rate. The proportion is given as a number between zero and one. The class should have:

* A constructor public Fitbyte(int age, int restingHeartRate)
* A method public double targetHeartRate(double percentageOfMaximum) that calculates and returns the target heart rate.

Use the 206.3 - (0.711 \* age) formula to calculate the maximum heart rate.

Use case:

Fitbyte assistant = new Fitbyte(30, 60);

double percentage = 0.5;

while (percentage < 1.0) {

double target = assistant.targetHeartRate(percentage);

System.out.println("Target " + (percentage \* 100) + "% of maximum: " + target);

percentage = percentage + 0.1;

}

Sample output:

**Target 50.0% of maximum: 122.48500000000001**

**Target 60.0% of maximum: 134.98200000000003**

**Target 70.0% of maximum: 147.479**

**Target 80.0% of maximum: 159,976**

**Target 89.99999999999999% of maximum: 172.473**

**Target 99.99999999999999% of maximum: 184.97000000000003**