Problem Set 1 Exercise #09: Speed of Sound

Reference: Lecture 2 notes

Learning objectives: Writing methods; Math class methods

Estimated completion time: 20 minutes

Problem statement:

Write a program **PS1_Ex09_SpeedOfSound.java** that calculates the speed of sound ***s*** in air of a given temperature ***T*** (in degree Fahrenheit).

Formula to compute the speed ***s*** in feet/sec is:

$$s = 1086\sqrt{\frac{5T + 297}{247}}$$

All variables should be defined in data type **`double`**.

Your program should contain a method **`speedOfSound()`** to compute and return the speed given the temperature. Note that there should be no input/output statement in your **`speedOfSound()`** method as this method is solely for computation purpose (i.e. compute and return the value back to the **`main`** method). The **`main()`** method is responsible for data input/output.

Please correct your output of real number to two decimal places.

Sample run #1:

```
Temperature in degree Fahrenheit: 95.8
Speed = 1924.92 ft/sec
```

Sample run #2:

```
Temperature in degree Fahrenheit: 100
Speed = 1950.79 ft/sec
```