

Lab exercises for practice from Chapter 03 and 04.

1. Create a class named `ConvertTemp` with Celsius Data field and a method that accepts a value in Celsius and converts it into Fahrenheit where  
$$\text{Fahrenheit} = ((9/5) * \text{Celsius}) + 32$$
2. Write an application that calculates and displays the weekly salary for an employee. The `main()` method calls a method `getInfo` which prompts the user for an hourly pay rate, regular hours, and overtime hours. Create a separate method to calculate overtime pay, which is regular hours times the pay rate plus overtime hours times 1.5 times the pay rate and a method to display all information.
3. Create a class named `Box` that includes integer data fields for length, width, and height. Create three constructors that require one, two, and three parameters, respectively. When one argument is passed to the constructor, assign it to length, assign zeros to height and width, and print "Line created". When two arguments are used, assign them to length and width, assign zero to height, and print "Rectangle created". When three arguments are used, assign them to the three variables and print "Box created".
4. Create a class named `Shirt` with data fields for collar size and sleeve length. Include a constructor that takes parameters for each field. Also include a final, static String named `MATERIAL` and initialize it to "cotton". Write an application named `TestShirt` to instantiate three `Shirt` objects with different collar sizes and sleeve lengths, and then display all the data, including material, for each shirt. Save both the `Shirt.java` and `TestShirt.java` files.
5. Create a class named `Circle` with fields named radius, diameter, and area. Include a constructor that sets the radius to 1 and calculates the other two values. Also include methods named `setRadius()` and `getRadius()`. The `setRadius()` method not only sets the radius, it also calculates the other two values. (The diameter of a circle is twice the radius, and the area of a circle is pi multiplied by the square of the radius.) Save the class as `Circle.java`