

Directions: Within your project or package named *Java-exercises* (create it if it does not already exist). Within that, create a class file for each class and test it using a `main()` method. Sample Java main method follows:

```
Public static void main(String[] args) {
}
```

Circle Class

1. Define a class named `Circle`. This class should have one attribute and one method:
 - a. `radius`
 - b. `circumference()`, A method that calculates and returns the calculated circumference of the circle
 - i. Use the equation ($2\pi r$), using 3.14 in the place of π .
 - ii. This method must use the `radius` attribute in its calculations.
2. Create a constructor for the `Circle` class. This constructor needs to receive a `radius` parameter and set the value of the `radius` attribute (*instance variable*)
3. Create an instance of the `Circle` class.
4. Create an instance of the `Circle` class passing a value for `radius`.
5. Call the `circumference()` method and print the results returned.

Person Class

6. Define a class named `Person`. This class should have three attributes and six methods:
 - a. Attributes
 - i. `age`
 - ii. `weight`
 - iii. `gender`
 - b. Methods (**Python coders: DO NOT USE THE `input()` function for these methods**)
 - i. `setAge()`, A method that changes the `age` based upon the value passed into the method.
 - ii. `setWeight()`, A method that changes the `weight` based upon the value passed into the method.
 - iii. `setGender()`, A method that changes the `gender` based upon the value passed into the method.
 - iv. Three methods, one for each attribute that returns the value.
 1. `getAge()` `getAge()` `getGender()`
7. Create a constructor method in the `Person` class. Code this method to accept parameter values for the three attributes (`age`, `weight`, `gender`). Set the properties based upon the parameters passed into the constructor method.

Note: These properties are called **instance variables**. Each instance of the class will have its own set of these variables. Instance variables are

typically defined just below the class definition statement. They should be passed in to the constructor and set at that point.

Java Programmers must include a modifier when defining these variables that forces other routines to use the setters and getters. Unfortunately this cannot be done in Python.

8. Create an instance of the `Person` class passing values for the three parameters (`age`, `weight`, `gender`).
9. Print the attributes of the `Person` object using the `getAge()`, `getWeight()` and, `getGender()` methods.
10. Set the attributes of the `Person` object using the `getAge()`, `getWeight()` and, `getGender()` methods.
11. Print the attributes of the `Person` object using `getAge()`, `getWeight()` and, `getGender()` methods.