Java Lab 2

Intake: 49

1. Write a Java program to create a class known as **Person** with methods called getFirstName() and getLastName(). Create a child class called Employee that adds a new method named getEmployeeId() and accesses the getLastName() method to include the employee's job title.

2. Write a Java program to create a class called **Shape** with methods called getPerimeter() and getArea(). Create a child class called **Circle** that uses the getPerimeter() and getArea() methods to calculate the area and perimeter of a circle.

3. Write a Java program to create a class known as "**BankAccount**" with methods called deposit() and withdraw(). Create a child class called SavingsAccount that acesses the withdraw() method to prevent withdrawals if the account balance falls below one hundred.

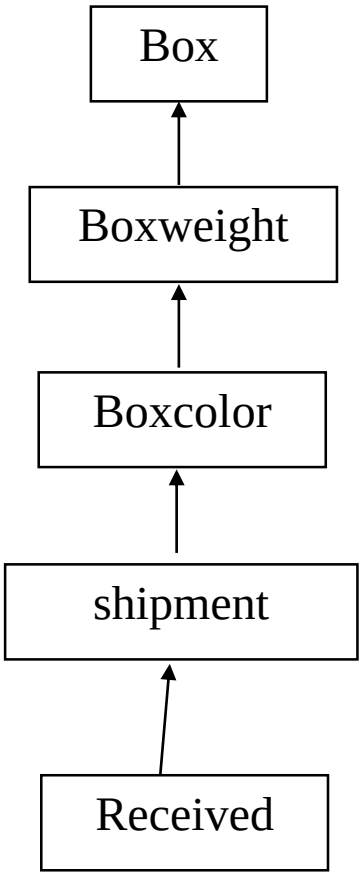
4. Write a Java program to create a vehicle class hierarchy. The base class should be **Vehicle**, with child classes Truck, Car and Motorcycle. Each child class should have properties such as make, model, year, and fuel type. Implement methods for calculating fuel efficiency, distance traveled, and maximum speed.

5. Write a Java program that creates a class hierarchy for employees of a company. The base class should be **Employee**, with child classes Manager, Developer, and Programmer. Each child class should have properties such as name, address, salary, and job title. Implement methods for calculating bonuses, generating performance reports, and managing projects.

6. We want to calculate the total marks of each student of a class in Physics, Chemistry and Mathematics and the average marks of the class. The number of students in the class are entered by the user. Create a class named **Marks** with data members for roll number, name and marks. Create three other classes inheriting the Marks class, namely Physics, Chemistry and Mathematics, which are used to define marks in individual subjects of each student. Roll number of each student will be generated automatically.

7. Write a program that creates a base class called **num**. This class holds an integer value and contain a function called shownum(). Create two derived classes called outhex and outoct that inherit num. This classes must have to override shownum() so that it displays the value in hexadecimal and octal, respectively.

8.



Box class has length, width and height variables. Boxweight has weight as a member variable. Boxcolor has color variable. Shipment class has cost variable. Lastly, Received class has boxarrived variable. Create three constructors in all of the classes. You have to create instances of all of them in the main function.

*Use super in all the child classes.