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Section 5: OOPS

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19. Create a class called Employee that includes three pieces of information as instance variables—a
first name (String), a last name (String) and a monthly salary (double). Your class should have a
constructor that initializes the three instance variables. Provide a set and a get method for each
instance variable.
If the monthly salary is not positive, set it to 0.0. Write a test application named EmployeeTest that
demonstrates class Employee's capabilities.
Create two Employee objects and display each object's yearly salary. Then give each Employee a
10% raise and display each Employee's yearly salary again.

20. Create a class called Book to represent a book. A Book should include four pieces of information
as instance variables-a book name, an ISBN number, an author name and a publisher. Your class
should have a constructor that initializes the four instance variables.
Provide a mutator method and accessor method (query method) for each instance variable.
Inaddition, provide a method named getBookInfo that returns the description of the book as a String
(the description should include all the information about the book). You should use this keyword in
member methods and constructor. Write a test application named BookTest to create an array of
object for 30 elements for class Book to demonstrate the class Book's capabilities

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i. Create a super class called Car. The Car class has the following fields and methods.
◦intspeed;
◦double regularPrice; ◦String color;
ii. Create a sub class of Car class and name it as Truck.
The Truck class has the following fields and methods.
◦int weight; ◦double getSalePrice();//Ifweight>2000,10%discount.Otherwise,20%discount
iii. Create a subclass of Car class and name it as Ford. The Ford class has the following fields
and methods
◦int year; ◦double manufacturerDiscount; ◦

doublegetSalePrice();//FromthesalepricecomputedfromCarclass,subtractthemanufacturer Discount
iv. Create a subclass of Car class and name it as Sedan. The Sedan class has the following fields
and methods. ◦intlength;
◦doublegetSalePrice();//Iflength>20feet,5%discount,Otherwise,10%discount
v. Create MyOwnAutoShop class which contains the main() method. Perform the following within
the main() method.
(a) Create an instance of Sedan class and initialize all **the fields with** appropriate values. Use
super(...) method in the constructor for initializing the fields of the superclass.
(b)Create two instances of the Ford class and initialize all the fields with appropriate values. Use
super(...) method in the constructor for initializing the fields of the super class.
(c) Create an instance of Car class and initialize all the fields with appropriate values. Display the
sale prices of all instance.