**9919004052 – C.Sai Prathap Reddy**

**1st PROGRAM CODE (15-09-2020):**

**class** BoxVol {  
 **private final double width**;  
 **private final double height**;  
 **private final double length**;  
 **public** BoxVol(**double** w, **double** h, **double** l){  
 **width** = w; **height** = h; **length** = l;  
 }  
 **public** BoxVol(){  
 **width** = -1; **height** = -1; **length** = -1;  
 }  
 **double** volume(){  
 **return width**\***height**\***length**;  
 }  
}  
  
**class** BoxWeight **extends** BoxVol{  
 **double weight**;  
 **public** BoxWeight(**double** w, **double** h, **double** l, **double** we) {  
 **super**(w,h,l);  
 **weight** = we;  
  
 }  
 BoxWeight(){  
 **super**();  
 }  
}  
  
**class** MainBox{  
 **public static void** main(String[] args){  
 BoxWeight b1 = **new** BoxWeight(2.3,4.5,6.7,7.8);  
 BoxWeight b2 = **new** BoxWeight();  
 **double** d = b1.volume();  
 System.***out***.println(**"Volume of b1 = "**+d);  
 d = b2.volume();  
 System.***out***.println(**"Volume of b2 = "**+ d);  
  
 }  
}

**2ND PROGRAM CODE (15-09-2020):**

**class** Date {  
 **int day**, **month**, **year**;  
 **public** Date(**int** d, **int** m, **int** y){  
 **if**(d < 32 && m < 13){  
 **month** = m;  
 **day** = d;  
 **year** = y;  
 }  
 **else**{  
 System.***out***.println(**"Incorrect Format"**);  
 }  
 }  
 **void** setMonth(**int** m){  
 **if** (m < 13){  
 **month** = m;  
 }  
 **else**{  
 System.***out***.println(**"Incorrect Month"**);  
 }  
 }  
 **void** setDay(**int** d){  
 **if**(d < 32){  
 **day** = d;  
 }  
 **else**{  
 System.***out***.println(**"Incorrect date"**);  
 }  
 }  
 **void** setYear(**int** y){  
 **int** chk = y/10000;  
 **if**((chk /10000) == 0){  
 **if**(chk == 0){  
 **year** = y;  
 }  
 **else**{  
 System.***out***.println(**"Incorrect Year"**);  
 }  
 }  
 }  
 **int** getMonth(){  
 **return month**;  
 }  
 **int** getDay(){  
 **return day**;  
 }  
 **int** getYear(){  
 **return year**;  
 }  
  
 **void** displayDate(){  
 System.***out***.println(**month**+**"/"**+**day**+**"/"**+**year**);  
 }  
}  
  
**class** Exercise{  
 **public static void** main(String[] args){  
 Date d = **new** Date(15,9,2020);  
 d.displayDate();  
 d.setDay(12);  
 d.setMonth(10);  
 d.setYear(2021);  
 d.displayDate();  
 System.***out***.println(**"Month = "** + d.getMonth());  
 }  
}

**3RD PROGRAM CODE (15-09-2020):**

**class** SavingsAccount {  
**static float** *rateOfInterest* = 4.0f;  
**private float savingsBalance**;  
**void** monthlyInterest(){  
 **float** interest = (**savingsBalance** \* *rateOfInterest*) / 12;  
 **savingsBalance** += interest;  
 System.***out***.println(**"Balance = "** + **savingsBalance**);  
 }  
 **static void** modifyInterestRate(**float** rate){  
 rateofInterest = rate;  
 }  
 **public** SavingsAccount(**float** balance){  
 **savingsBalance** = balance;  
 }  
  
}  
  
**class** MainEx{  
 **public static void** main(String[] args){  
 SavingsAccount s1 = **new** SavingsAccount(2000.0f);  
 SavingsAccount s2 = **new** SavingsAccount(3000.0f);  
 s1.monthlyInterest();  
 s2.monthlyInterest();  
 SavingsAccount.modifyInterestRate(5.0f);  
 s1.monthlyInterest();  
 s2.monthlyInterest();  
 }  
}

**4TH PROGRAM CODE (15-09-2020):**

**import** java.util.Scanner;  
**class** Book  
{  
 String **bookName**;  
 String **author**;  
 String **ISBN**, **publisher**;  
 Book(String title, String auth, String isbn, String publish){  
 **bookName** = title;  
 **author** =auth;  
 **this**.**ISBN** = isbn;  
 **publisher** = publish;  
 }  
 **void** setTitle(String name){  
 **bookName** = name;  
 }  
 **void** setAuthor(String auth){  
 **author** = auth;  
 }  
 **void** setISBN(String s){  
 **ISBN** = s;  
 }  
 **void** setPublisher(String p){  
 **publisher** = p;  
 }  
 String getTitle(){  
 **return bookName**;  
 }  
 String getAuthor(){  
 **return author**;  
 }  
 String getISBN(){  
 **return ISBN**;  
 }  
 String getPublisher(){  
 **return publisher**;  
 }  
 String bookInfo(){  
 String info = **bookName** + **" "** + **author** + **" "** + **ISBN** + **" "** + **publisher**;  
 **return** info;  
  
 }  
}  
  
 **class** MainBook  
{  
 **public static void** main(String[] args) {  
 Book b[] = **new** Book[30];  
 b[0] = **new** Book(**"Programming in Java"**, **"Rama"**, **"12345"**, **"Wiley"**);  
 String title, auth, isbn, publisher;  
 Scanner s = **new** Scanner(System.in);  
 **for** (**int** i =1; i < 5; i++){  
 title = s.next();  
 auth = s.next();  
 isbn = s.next();  
 publisher = s.next();  
 b[i] = **new** Book(title,auth,isbn,publisher);  
 }  
 b[2].setTitle(**"Software Testing"**);  
 System.out.println(b[2].getTitle());  
 String info;  
 **for** (**int** i = 0; I < 5; i++) {  
 info = b[i].bookInfo();  
 System.out.println(info);  
 }

}}

**5TH PROGRAM CODE (16-09-2020):**

**Create a class called Employee that includes three pieces of information as instance variables—a first name (typeString), a last name (typeString) 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 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.**

**class** Employee{  
 String **firstname**;  
 String **lastname**;  
 **double salary**;  
 **public** Employee(String fn,String ln,**double** sal){  
 **firstname** = fn;  
 **lastname** = ln;  
 **if**(**salary**<0){  
 **salary**=0.0;  
 }  
 **else**{  
 **salary** = sal;  
 }  
 }  
 **void** setFname(String fn){  
 **firstname** = fn;  
 }  
 **void** setLname(String ln){  
 **lastname**=ln;  
 }  
 **void** setSal(**double** sal){  
 **if**(**salary**<0){  
 **salary**=0.0;  
 }  
 **else**{  
 **salary** = sal;  
 }  
 }  
 String getFname(){  
 **return firstname**;  
 }  
 String getLname(){  
 **return lastname**;  
 }  
 **double** getsal(){  
 **return salary**;  
 }  
 **double** sal(**int** percent){  
 **salary**+=**salary**\*((percent/100.0));  
  
 **return salary**;  
 }  
  
}  
**class** Main  
{  
 **public static void** main(String[] args) {  
 Employee em1 = **new** Employee(**"Prathap"**,**"Reddy"**,30000);  
 Employee em2 = **new** Employee(**"Lingishetty"**,**"Abhi"**,30000);  
  
 System.out.println(em1.getFname() +**" "**+ em1.getLname() +**" "**+em1.getsal());  
 System.out.println(em2.getFname() +**" "** + em2.getLname() +**" "** +em2.getsal());  
 **double** s = em1.sal(10);  
 */\*  
  
 \*/* System.***out***.println(**"Annual salary = "** + (s\*12));  
 **double** s2 = em2.sal(15);  
 System.***out***.println(**"Annual salary = "** + (s2\*12));  
 }  
}

**6TH PROGRAM CODE (16-09-2020):**

**class** Invoice{  
 String **pno**, **pdesc**;  
 **double price**;  
 **int quantity**;  
 Invoice(String pno, String pdesc, **int** q, **double** price){  
 **this**.**pno** = pno;  
 **this**.**pdesc** = pdesc;  
 **if**(q < 0){  
 **quantity** = 0;  
 }**else**{  
 **quantity** = q;  
 }  
 **if**(price < 0){  
 **this**.**price** = 0.0;  
 }  
 **else**{  
 **this**.**price** = price;  
 }  
 }  
 **void** setPno(String pno){  
 **this**.**pno** = pno;  
 }  
 **void** setPdesc(String pdesc){  
 **this**.**pdesc** = pdesc;  
 }  
 **void** setQuantity(**int** q){  
 **if**(q < 0){  
 **quantity** = 0;  
 }**else**{  
 **quantity** = q;  
 }  
 }  
 **void** setPrice(**double** p){  
 **if**(p < 0){  
 **price** = 0.0;  
 }**else**{  
 **price** = p;  
 }  
 }  
  
 String getPno(){**return pno**;}  
 String getPdesc(){**return pdesc**;}  
 **int** getQuantity(){**return quantity**;}  
 **double** getPrice(){**return price**;}  
 **double** getInvoice(){  
 **return** (**quantity** \* **price**);  
 }  
}  
  
**class** MainInvoice{  
 **public static void** main(String[] args){  
 Invoice i1 = **new** Invoice(**"10"**,**"Monitor"**,10,50000.0);  
 Invoice i2 = **new** Invoice(**"20"**,**"KeyBoard"**,10,30000.0);  
 System.***out***.println(i1.getPno()+**" "**+ i1.getPdesc()+**" "**+**" "**+i1.getQuantity()+**" "**+ i1.getPrice());  
 System.***out***.println(**"The net Invoice Amount = "**+i1.getInvoice());  
 System.***out***.println(i2.getPno()+**" "**+i2.getPdesc()+**" "**+**" "**+i2.getQuantity()+**" "**+i2.getPrice());  
 System.***out***.println(**"The net Invoice Amount = "**+ i2.getInvoice());  
 }  
}