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Program 1 :

class Box{

private double width;

private double height;

private double length;

public Box(double w, double h, double l)

{

width = w; height = h; length = l;

}

public Box(){

width = -1; height = -1; length = -1;

}

double volume(){

return width \* height \* length;

}

}

class BoxWeight extends Box{

double Weight;

BoxWeight(double w, double h, double l, double we){

super(w, h, l);

Weight = we;

}

BoxWeight(){

super();

}

}

public class Main{

public static void main(String args[]){

BoxWeight b1 = new BoxWeight(2.7, 4.5, 2.6, 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);

}

}

Progam 2 :

class Date{

int month;

int day;

int year;

public Date(int m, int d, int y)

{

if ( m < 13 && d < 31)

{

month = m; day = d; year = y;

}

else

System.out.println("Incorrect date");

}

void setMonth(int m)

{

if ( m < 13) month =m;

else

System.out.println("Incorrect Month");

}

void setDay(int d)

{

if ( d < 31) day = d;

else

System.out.println("Incorrect Day");

}

void setYear(int y)

{

if ((y/10000) == 0)

year = y;

else

System .out.println("Incorrect Year");

}

int getmonth() {

return month;

}

int getDay() {

return day;

}

int getYear() {

return year;

}

void display () {

System.out.println("The date is " + day +"/" + month + "/" + year);

}

}

public class Main

{

public static void main(String[] args){

Date d1 = new Date(9,15,2020);

d1.display();

d1.setMonth(10);

d1.setDay(12);

d1.setYear(2021);

}

}

Program 3 :

class SavingsAccount{

static float AnnualIntrestrate = (float)8.5;

private float SavingsBalance;

void caluclateMonthlyIntrest(){

float intrest = ((SavingsBalance\*AnnualIntrestrate)/12);

SavingsBalance+=intrest;

System.out.println("balance is " + SavingsBalance);

}

static void ModifyIntrestrate(float rate){

AnnualIntrestrate=rate;

}

public SavingsAccount(float balance){

SavingsBalance=balance;

}

}

public class Main

{

public static void main(String[] args) {

SavingsAccount s1 = new SavingsAccount(4500.0f);

SavingsAccount s2 = new SavingsAccount(15000.0f);

s1.caluclateMonthlyIntrest();

s2.caluclateMonthlyIntrest();

SavingsAccount.ModifyIntrestrate(6.0f);

s1.caluclateMonthlyIntrest();

s2.caluclateMonthlyIntrest();

}

}

Program 4 :

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;

}

}

public class Main

{

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);

}

}

}