***Exercise No:1***

**package** OopsAdvance;

**public** **class** AccountSettings {

**public** **long** accNum;

**public** **double** balance;

**public** Person accHolder;

**public** **void** deposit(**double** bal) {

balance+=bal;

}

**public** **void** withdraw(**double** bal){

**double** res = balance-bal;

**if**(res <= 500) {

System.***out***.println("Minimum balance cannot be deducted");

**return**;

}

balance-=bal;

}

**public** **double** getBalance() {

**return** balance;

}

**public** **long** getAccNum() {

**return** accNum;

}

**public** **void** setAccNum(**long** accNum) {

**this**.accNum = accNum;

}

**public** Person getAccHolder() {

**return** accHolder;

}

**public** **void** setAccHolder(Person accHolder) {

**this**.accHolder = accHolder;

}

**public** **void** setBalance(**double** balance) {

**this**.balance = balance;

}

**public** **static** **void** main(String[] args) {

Person Thilak = **new** Person();

Thilak.setName("Rahul");

Thilak.setBalance(2000);

Person Rai = **new** Person();

Rai.setName("Anand");

Rai.setBalance(3000);

Thilak.deposit(2000);

Rai.withdraw(2000);

SavingsAccount savings = **new** SavingsAccount();

savings.withdraw(1000);

System.***out***.println("Rahul balance: "+Rahul.balance);

System.***out***.println("Anand balance: "+Anand.balance);

}

}

**class** Person **extends** AccountSettings{

String Name;

**float** age;

**public** String getName() {

**return** Name;

}

**public** **void** setName(String name) {

Name = name;

}

**public** **float** getAge() {

**return** age;

}

**public** **void** setAge(**float** age) {

**this**.age = age;

}

}

**class** SavingsAccount **extends** AccountSettings{

**final** **int** minimumBalance = 500;

@Override

**public** **void** withdraw(**double** bal) {

**double** res = balance - bal;

**if**(res <= 500) {

System.***out***.println("Cannot deduct from minimum balance");

**return**;

}

balance-=bal;

}

}

**class** CurrentAccount **extends** AccountSettings{

**double** overdraftLimit = 500;

@Override

**public** **void** withdraw(**double** bal) {

**double** res = balance - bal;

**if**(res <= 500) {

System.***out***.println("true");

}

}

}

***Exercise No:2***

package OopsAdvance;

public class Main {

public static void main(String[] args) {

Book book1 = new Book();

JournalPaper paper1 = new JournalPaper();

Video video1 = new Video();

CD cd1 = new CD();

System.*out*.println(book1.getTitle());

System.*out*.println(paper1.getTitle());

System.*out*.println(video1.getTitle());

System.*out*.println(cd1.getTitle());

}

}

abstract class Item {

private int indentificationNumber;

private String title;

private int numberOfCopies;

public int getIndentificationNumber() {

return indentificationNumber;

}

public void setIndentificationNumber(int indentificationNumber) {

this.indentificationNumber = indentificationNumber;

}

public String getTitle() {

return title;

}

public void setTitle(String title) {

this.title = title;

}

public int getNumberOfCopies() {

return numberOfCopies;

}

public void setNumberOfCopies(int numberOfCopies) {

this.numberOfCopies = numberOfCopies;

}

}

abstract class WrittenItem extends Item{

private String author;

public String getAuthor() {

return author;

}

public void setAuthor(String author) {

this.author = author;

}

}

class Book extends WrittenItem{

public Book() {

setAuthor("Anand");

setIndentificationNumber(1);

setTitle("BookOfCalmness");

setNumberOfCopies(10);

}

}

class JournalPaper extends WrittenItem{

private int yearPublished;

public int getYearPublished() {

return yearPublished;

}

public void setYearPublished(int yearPublished) {

this.yearPublished = yearPublished;

}

public JournalPaper() {

setAuthor("Rahul");

setIndentificationNumber(2);

setTitle("CSE Fundamentals");

setNumberOfCopies(10);

setYearPublished(2024);

}

}

abstract class MediaItem extends Item{

private int runTime;

public int getRunTime() {

return runTime;

}

public void setRunTime(int runTime) {

this.runTime = runTime;

}

}

class Video extends MediaItem{

private String director;

private String genre;

private int yearReleased;

public String getDirector() {

return director;

}

public void setDirector(String director) {

this.director = director;

}

public String getGenre() {

return genre;

}

public void setGenre(String genre) {

this.genre = genre;

}

public int getYearReleased() {

return yearReleased;

}

public void setYearReleased(int yearReleased) {

this.yearReleased = yearReleased;

}

public Video() {

setIndentificationNumber(3);

setTitle("Intro Movie");

setNumberOfCopies(10);

setRunTime(30);

setDirector("Prabhudev");

setGenre("Sci-fi");

setYearReleased(2012);

}

}

class CD extends MediaItem{

private String artist;

private String genre;

public String getArtist() {

return artist;

}

public void setArtist(String artist) {

this.artist = artist;

}

public String getGenre() {

return genre;

}

public void setGenre(String genre) {

this.genre = genre;

}

public CD() {

setIndentificationNumber(4);

setTitle("2012 Blockbuster");

setNumberOfCopies(10);

setRunTime(30);

setArtist("KK");

setGenre("Hiphop");

}

}