

```
import java.util.Scanner;
public class Quadratic {
```

```
    public static void main(String[] args) {
        double a, b, c;
```

```
        Scanner input = new Scanner(System.in);
```

```
        System.out.println("Enter the value of coefficients: ");
```

```
        System.out.print("a = ");
```

```
        a = input.nextDouble();
```

```
        System.out.print("b = ");
```

```
        b = input.nextDouble();
```

```
        System.out.print("c = ");
```

```
        c = input.nextDouble();
```

```
        double x1, x2;
```

```
        double d = b * b - 4 * a * c;
```

```
        if(d > 0) {
```

```
            System.out.println("Real and Distinct roots.");
```

```
            x1 = (-b + Math.sqrt(d)) / (2 * a);
```

```
            x2 = (-b - Math.sqrt(d)) / (2 * a);
```

```
            System.out.println("Roots are " + x1 + " and " + x2);
```

```
}
```

```
else if(d == 0) {
```

```
    System.out.println("Real and Equal roots.");
```

```
    x1 = -b / (2 * a);
```

```
    x2 = x1;
```

```
    System.out.println("Roots are " + x1 + " and " + x2);
```

```
}
```

```
else
```

```
    System.out.println("There are no real solutions.");
```

```
3
```

```
3
```

1BM19CS053

Divyanshu Shonwab

6/10/2020

1BM19CS053

Divyanshu Thorwala

~~import~~

import java.util.Scanner;

class Student

{

 private String usn;

 private String name;

 private int credits[];

 private double marks[];

 private int n;

 private double sgpa;

 private totalcredits;

 Void getdata()

{

 int i;

 Scanner input = new Scanner (System.in);

 System.out.println ("Enter the number of subjects : ");

 n = input.nextInt();

 credits = new int[n];

 marks = new double[n];

 System.out.println ("Enter the details of student : ");

 System.out.println ("Enter the USN of student : ");

 usn = input.next();

 input.nextLine();

 System.out.println ("Enter the name of student : ");

 name = input.next();

 System.out.println ("Enter the credits and marks of subject ");

totalcredit = 0
 for (i=0; i<n; i++)
 {

System.out.print("Enter the credit and marks of subject ");

System.out.println(i+1);

credits[i] = input.nextInt();

totalcredits = totalcredits + credits[i];

if (totalcredits > 25)

{

System.out.println("Total credits are more than 25
enter again");

totalcredit = totalcredits - credits[i];

i--;

}

else

marks[i] = input.nextDouble();

}

}

void printdata()

{

System.out.println("The details of student : ");

System.out.print("OSN of student : ");

System.out.print("Name of student : ");

System.out.println(name);

System.out.print("SGPA of student : ");

System.out.println(sgpa);

}

1BM19CS053
Dnyanshu Jha

6/10/2020

MIRAJ

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1BM19CS053

Divyanshu Jhanwar

void calculate()

{

int i;

int x;

double sum=0, total=0;

for(i=0; i<n; i++)

{

if (marks[i] >= 90)

x=10;

else if (marks[i] >= 80)

x=9;

else if (marks[i] >= 70)

x=8;

else if (marks[i] >= 60)

x=7;

else if (marks[i] >= 50)

x=6;

else if (marks[i] >= 40)

x=5;

else

x=0;

sum = sum + credit[i] * x;

total = total + credit[i];

3

sgpa = sum / total;

3

6/10/2020

MIRAJ

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1DM19CS053

Dnyaneshwar Thawale

public class LabProg2 {

 public static void main (String [] args) {

 Student s1 = new Student();

 s1.getdata();

 s1.calculate();

 s1.printdata();

}

}

1BM19CS053

Dnyanesh Thorwad

```
import java.util.Scanner;
```

```
class Book {
```

```
    private String name;  
    private String author;  
    private double price;  
    private int numPages;
```

```
Book(String s, String a, double p, int n)  
{
```

```
    name = s;  
    author = a;  
    price = p;  
    numPages = n;
```

3

```
Book()
```

{

```
    name = "NULL";  
    author = "NULL";  
    price = 0;  
    numPages = 0;
```

3

```
void setData()
```

{

```
Scanner input = new Scanner(System.in);
```

```
System.out.println("Enter the name of the book : ");
```

```
name = input.next();
```

```
input.nextLine();
```

1 BM19(S05)

Digvijay Thorawar

System.out.println("Enter the author of the book :");

author = input.next();

input.nextLine();

System.out.println("Enter the price of the book :");

price = input.nextDouble();

System.out.println("Enter the number of pages in the
book :");

numPages = input.nextLine();

numPages = input.nextInt();

3

void getData()

{

System.out.println("The name of the book is : " + name);

System.out.println("The author of the book is : " + author);

System.out.println("The price of the book is : " + price);

System.out.println("Number of pages in the book are : "

+ numPages);

3

3

public String toString()

{

return ("name of the book : " + name + " \n author of the
book : " + author + " \n price of the book : " + price +

" \n number of pages in the book : " + numPages);

3

3

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MIRAJ

1BMS053
Divyanshu Thawani

public class lab3 {

 public static void main (String args []) {

 Scanner xx = new Scanner (System.in);

 System.out.println ("Enter the number of books : ");

 int n = xx.nextInt();

 Book b [] = new Book [n];

 int i;

 System.out.println ("Enter the details of the book : ");

 for (i=0; i < n; i++)

 {

 System.out.println ("Enter the details of the " + (i+1) + " book ");

 b[i] = new Book();

 b[i].Setdata();

 }

 System.out.println ("The details of the " + (i+1) + " book is : ");

 for (i=0; i < n; i++)

 {

 System.out.println ("The details of the " + (i+1) + " book is : ");

 System.out.println ("The details of the books are : ");

 for (i=0; i < n; i++)

 {

 System.out.println ("The details of the " + (i+1) + " book is : ");

 System.out.println (b[i]);

 }

3

3

IBM19CS053

```
import java.util.Scanner;
```

```
abstract class Shape
```

{

```
    private int a, b;
```

```
    void setShape(int x, int y)
```

{

```
        a = x;
```

```
        b = y;
```

}

```
    int getA()
```

{

```
        return a;
```

}

```
    int getB()
```

{

```
        return b;
```

}

```
abstract public void printArea();
```

}

```
class set Rectangle extends Shape
```

{

```
    private int area = 0;
```

```
    private int area_rect;
```

```
    rectangle (int x, int y)
```

{

```
        setShape(x, y);
```

}

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public void print-area()

$$\text{area-rect} = \text{getA()} * \text{getB}();$$

System.out.println("Area of rectangle is : " + area-rect);

3

class triangle extends shape

2

private double area-tri;

triangle(int x, int y)

2

setshape(x, y);

3

public void print-area()

2

$$\text{area-tri} = (\text{getA()} * \text{getB}()) / 2;$$

System.out.println("The area of triangle is : " + area-tri);

3

class circle extends shape

2

private double area-circle;

circle(int y)

2

~~set~~ setshape(0, y);

3

2
public void print-area()

$$\text{area-circle} = ((3.14) * \text{getB()} * \text{getB()});$$

System.out.println ("Area of circle is : " + area-circle);

3

public class week 81

4
public static void main (String args[]) {

Scanner xx = new Scanner (System.in);

int a, b;

System.out.println ("Enter the length of the rectangle : ");

a = xx.nextInt();

System.out.println ("Enter the breadth of rectangle : ");

b = xx.nextInt();

rectangle r = new rectangle (a, b);

r.print-area();

System.out.println ("Enter the height of triangle : ");

b = xx.nextInt();

System.out.println ("Enter the base of the triangle : ");

b = xx.nextInt();

triangle t = new triangle (a, b);

t.print-area();

System.out.println ("Enter the radius of circle : ");

a = xx.nextInt();

circle c = new circle (a);

c.print-area();

3

3

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(2)

```
import java.util.Scanner;  
import java.util.Math;
```

```
class Account
```

```
{
```

```
    private String name;  
    private double account_no;  
    private char account_type;  
private double  
    private double balance;
```

```
    void getdata(char ch)
```

```
{
```

```
    Scanner xx = new Scanner(System.in);
```

```
    System.out.print("Enter the name of the customer : ");
```

```
    name = xx.next();
```

```
    xx.nextLine();
```

```
    System.out.print("Enter the account number of the customer : ");
```

```
    account_no = xx.nextDouble();
```

```
    System.out.print("Enter the balance of the customer : ");
```

```
    balance = xx.nextDouble();
```

```
    account_type = ch;
```

```
3
```

```
    void updatebalance(double x)
```

```
{
```

```
    balance = balance + x;
```

```
3
```

void updatebalance(double x)

{

balance = balance - x;

void updatebalance1 (double x)

{

balance = balance - x;

{

void updatebalance2 (double x)

{

balance = x;

{

double getbalance()

{

return balance;

{

void displaybalance()

{

System.out.println ("The balance is : " + balance);

{

class Saving-Account extends Account {

private double interest-rate;

Saving-Account ()

{

Scanner xx = new Scanner (System.in);
getdata ('s');

System.out.print ("Ents the interest rate : ");

interest-rate = xx.nextDouble();

{

void getdeposit()

{

Scanner $\text{xx} = \text{new Scanner}(\text{System.in});$

$\text{System.out.print}(\text{"Enter the amount to be deposited : "});$

double $x = \text{xx.nextDouble}();$

updatebalance(x);

3

void computeinterest()

{

Scanner $\text{xx} = \text{new Scanner}(\text{System.in});$

$\text{System.out.print}(\text{"Enter the number of years : "});$

double time = $\text{xx.nextDouble}();$

double $x = (\text{getbalance}())^{\ast} \cancel{\text{Math.pow}(C + ((\text{Interest-rate})/100))}$
 $\text{Math.pow}(C(1 + ((\text{interest-rate})/100)), \text{time});$

updatebalance2(x);

$\text{System.out.println}(\text{"The Computed interest is : "} + x);$

displayBalance();

3

void withdrawl()

{

$\text{System.out.print}(\text{"Enter the amount to be withdrawn : "});$

Scanner $\text{xx} = \text{new Scanner}(\text{System.in});$

double $x = \text{xx.nextDouble}();$

while ($x > \text{getbalance}()$)

{

$\text{System.out.println}(\text{"The amount withdrawn is more than the balance enter again : "});$

$x = \text{xx.nextDouble}();$

3

updateBalance();

displayBalance();

3

3

class CurrentAccount extends Account {

private double minBalance;

private int chequeBook;

CurrentAccount()

{

Scanner xx = new Scanner(System.in);

getdata('C');

System.out.print("Enter the minimum balance : ");

minBalance = xx.nextDouble();

3

void getDeposit()

{

Scanner xx = new Scanner(System.in);

System.out.print("Enter the amount to be deposited : ");

double x = xx.nextDouble();

updateBalance(x);

3

void issueCheck()

{

Scanner xx = new Scanner(System.in);

System.out.print("Enter the ~~amount~~^{amount} of the check : ");

double x = xx.nextDouble();

if (x > (getBalance() - minBalance))

{

System.out.println ("You have issued check of more than the minimum balance and you have been charged the penalty of 100 rupees");
 updateBalance(100);

3

else

{

 updateBalance(1(x));

3

 displayBalance();

3 3

 void withdraw()

{

 System.out.print ("Enter the amount to be withdrawn: ");

 Scanner x = new Scanner (System.in);

 double x = x.nextDouble();

 while (x > (getBalance() - minBalance))

{

 System.out.println ("The amount withdrawn is more

 than the balance enter again: ");

 x = x.nextDouble();

3

 updateBalance(1(x));

 displayBalance();

3

3

public class week 82 {

public static void main (String args[])

{

Scanner input = new Scanner (System.in);
char ch;

System.out.println ("Enter the type of account you
want (c/s) : ");
if (ch == 's' || ch == 'S')
{

Saving-Account s = new Saving-Account ();
int x = 1;
while (x != 0)

{

System.out.println ("Enter 0 for exit : ");

System.out.println ("Enter 1 for deposit : ");

System.out.println ("Enter 2 for balance enquiry : ");

System.out.println ("Enter 3 to calculate interest : ");

System.out.println ("Enter 4 for withdrawl : ");

x = input.nextInt ();

if (x == 0)

break;

else if (x == 1)

{

s.getdeposit();

}

else if (x == 2)

{

~~s.~~ s.displaybalance();

}

else if ($x == 3$)

{

s.computeInterest();

}

else if ($x == 4$)

{

s.withdraw();

}

}

else

{

Current_Account s = new Current_Account();

int x = 1;

while ($x != 0$)

{

System.out.println ("Enter 0 for exit : ");

System.out.println ("Enter 1 for deposit : ");

System.out.println ("Enter 2 for balance enquiry : ");

System.out.println ("Enter 3 to apply for cheque : ");

System.out.println ("Enter 4 for withdrawal : ");

x = input.nextInt();

if ($x == 0$)

break;

else if ($x == 1$)

s.getDeposit();

else if ($x == 2$)

s.displayBalance();

else if ($x == 3$)

{

s. issuecheck();

}

else if ($x == 4$)

s-withdrawl();

}

}

}

week 10

Divyanshu

```
import java.util.Scanner;
```

```
class Test <T> {
```

```
    T obj;
```

```
    Test(T obj) {
```

```
        this.obj = obj;
```

3

```
    void display() {
```

```
        System.out.println("Type of T : " + obj.getClass().getName());
```

3

```
    T getObject() {
```

```
        return obj;
```

3

3

```
class generic {
```

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

```
    Test<Integer> i = new Test<Integer>(15);
```

```
    i.display();
```

```
    System.out.println("Value : " + i.getObject());
```

```
    Test<Double> d = new Test<Double>(215.14);
```

```
d.display();
```

```
System.out.println("Value : " + d.getObject());
```

```
    Test<String> s = new Test<String>("Hello World!");
```

```
s.display();
```

```
System.out.println("Value : " + s.getObject());
```

3

3

Week 11

class NewThread implements Runnable {

String name;

long time;

int x;

Thread t;

NewThread (String threadname, long time, int x1) {

name = threadname;

x = x1;

time = time;

t = new Thread (this, name);

System.out.println ("New Thread : " + t);

t.start();

}

public void run() {

try {

for (int i = x; i > 0; i--) {

System.out.println (name);

Thread.sleep (time);

}

} catch (InterruptedException e) {

System.out.println (name + " Interrupted");

}

System.out.println (name + " exiting.");

}

3
class MultiThreadDemo {

public static void main (String args[]) {

new NewThread ("BMS COLLEGE OF ENGINEERING", 10000, 2);

new NewThread ("CSE", 2000, 10);

}

3

```
import java.awt.*;  
import java.awt.event.*;
```

```
class SampleDialog extends Dialog implements ActionListener  
{
```

```
    Division div;
```

```
    SampleDialog(Frame parent, String title)  
{
```

```
        super(parent, title, false);
```

```
        div = (Division) parent;
```

```
        setLayout(new FlowLayout());
```

```
        setSize(400, 150);
```

```
        add(new Label(div.msg));
```

```
        Button b;
```

```
        add(b = new JButton("OK"));
```

```
        b.addActionListener(this);
```

```
}
```

```
public void actionPerformed(ActionEvent ae)
```

```
{
```

```
    dispose();
```

```
public class Division extends Frame implements ActionListener
```

```
{
```

```
    String msg = " ";
```

```
    String msg1 = " ";
```

```
    JTextField n1, n2, res;
```

```
    Button b;
```

Label result = new Label ("Result : ", label.RIGHT);

public Division()

{

setLayout (new FlowLayout ());

Label num1 = new Label ("Number 1 : ", label.RIGHT);

Label num2 = new Label ("Number 2 : ", label.RIGHT);

Button div = new Button ("Divide");

n1 = new TextField (10);

n2 = new TextField (10);

res = new TextField (35);

add (num1);

add (n1);

add (num2);

add (n2);

b = (Button) add (div);

add (result);

add (res);

n1.addActionListener (this);

n2.addActionListener (this);

b.addActionListener (this);

addWindowListener (new WindowAdapter ()) ;

public void windowClosing (WindowEvent we) {

System.exit (0);

}

};

3

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

```
    Division appwin = new Division ();
    appwin.setSize (new Dimension (450, 180));
    appwin.setTitle ("Integer-Division");
    appwin.setVisible (true);
```

3

```
public void actionPerformed (ActionEvent ae)
{
```

```
    if (! (n1.getText ().equals ("")) && ! (n2.getText ().equals (""))
        ! (n2.getText ().equals ("")))
```

try

```
    msg1 = "" + (Integer.parseInt (n1.getText ()) /
        Integer.parseInt (n2.getText ())),
```

```
    res.setText (msg1);
```

3

```
catch (NumberFormatException e)
```

{

```
    msg = "ERROR : Enter ONLY Integers !";
    res.setText ("");
```

```
    SampleDialog d = new SampleDialog (this, "ERROR");
    d.setVisible (true);
```

3

```
catch (ArithmaticException e)
```

{

```
    msg = "ERROR : Division CANNOT be zero!";
    res.setText ();
```

```
    SampleDialog d = new SampleDialog (this, "ERROR");
    d.setVisible (true);
```

1

)

else

{

msg = "Error: Number Fields should NOT be EMPTY!";
res.setText(" ");

SampleDialog d = new SampleDialog(this, "Error");
d.setVisible(true);

)

)

)