```
LAB
Java program to print real solutions of quadratic ear extbx+C=O
Dz b2- 4ac
    import jour util . Scanner;
    clau Quadratic &
     public static void main (Systemin);
     Scanne in = new Scanner (System in);
     double a, b, c, d, x1, x2;
   Sy ctem. out paint en l'enter être value of variable a');
      a = un-next Double (1;
    System. out. print la ("enter the Value of variable 6");
       b = in next Double();
     System. out . paintle l'enter the value of variable (");
        C = in next Double ();
        d= (b*b)-4*a*c;
        n 1 = (-b+ Math Squate (d))/(a*2);
          2 = (-b - Math · Squet(d))/(2 *a);
         Syctem. out. print le ("the root, au real and distinct");
          system out puinte l'être voots our "+214" and "+ x2);
        elle 4 (d==0) f
         System. out-paint lus "the worth are real and equal");
          Syctem. out-paintle ("the roots one",+11+"and"+12);
           élu. 4 (d<0)
           Sy ctem out printer la there are no real roots");
```

```
LAB-2
  inport java. util. Scanner;
  dan Studenth
   String un, name;
    Static uit credity [];
     static devible marks [];
    void input (int n)
    Seanner Scz new Scenner (System in);
    Sget un out. paintle l'enter un and name);
     un = sc. nextline ();
      nouve = 9c. next line();
    System out print lu l'enter the marks with credits
           of that Subject");
      for (uit i=0; i <n; i++)
          marke[i] = 8c. next Double();
          caudits[i] = Sc. next Eut ();
        3 system. out. paint ln();
```

```
double calculate (cirt n)
  unt c, caed=0:
 double +ot, +otal = 0.0;
  for (uit c=0; i<n; i++)
    tot = mark CiD; and
    (10P< tot) p
                in the day of the state of the
        elu i (tot > 90)
           c = 9 :
         elui (tot> 70) ant 122)
           c=8;
          elu q (tot > 60)
            C=7',
                             1) but how se - a
           elu y (+ot > 50)
             c = 6
           elu q (tot > 40)
             C=5; (1) instruction (10) = (1, t, t) do not
             elu
                           (latet, of warnie
             c=0;
       total = total + (c*cueditici]);
         eved = coed+ crediti[i];
        + otal = total/ cred;
         return (total);
                              VION La VIII
                 Live and water book
```

```
Void display ( unt n, double total)
System. aut. print la l'name of standard: "4 neure);
System out aprint en l'us n of sterdent: "+ us n);
System out printer ("neuke et student along with cours");
 for (int i=0; i<n; i++)
 By tem · out più u (marke [i] +" " 4 cuedity [i]);
  System out. println ("syper of Student!"++otal);
  Jepublic static void main (String curys [])
  Scarner &C= new Bearner (System in),
  Student obj = new Student();
 System out printh ("enter the number of cours");
  int n = se. next Tut();
   cuedity = new wit[n];
   marker = new double [1];
   obi · cirput (n);
    double total = ebj · Calculate (n);
     obj. display (n, total);
                         Thought of the total
                            illower has -
```

```
LAB 3
  import jour util . Scanner;
    class Book &
     String name;
      String author;
      int price;
      int num-pages;
     Scanner. p = new Scanner (System. in);
     Void details () {
    System out printle ("Enter the name of the book");
     name = p. next Line ();
     System. Out print le ("Enter the name of author");
      author = p. next line();
      System out println ("Enter the price of book);
       puice = p. nextInt();
      System out print lu ("Enter the number of paget in the bo
      num-pager = p. next Int ();
       public String to Strig(){
        actuer ("name:"+ name+"\n outhor:"+ outhos+"\n più
                    + paice + "Innum-pages;"+ num-pages);
    clay Bk {
    public static void main (String args [7) {
     Scanne q = new Scanny (System. in):
     Book obj[] = new Book [10];
      unt n;
      System. out. printly ("Enter the number of objects required
       n= q. nextInt();
```

```
for (mit | i=0; | i < 1; | i++) | least state of beautiful for the object of the production of the object of the production of the object of the production of the object of the object
```

```
> Using Abstruct to overide
                               methods
                                         [LAB-4]
   "unport jour util Scanner;
   abstruct clay Shape of
      double dimi, dim2;
      Shape (double ds, double d2) {
           dim1 = d1;
           dimz=dz;
        abstract double print anal);
        class hectargle extends shape f
         Rectangle (double d1, double d2) {
            Super (ds, dz);
          double paint_cua(){
           return dim 1 * dim 2;
        class tringle extends Shape &
         Triangle (double ds, double dz){
              Super (d1, d2);
          double print area () {
            utum (dim)*dim2)/2;
```

```
elan Circle extends Shape ?
  Circle (double de, double de) {
   Super (d1, d2);
                                  me and later was to pro-
                                       A front mals
   double print_aceal) f
            3.14 * dim1 * dim2;
                         was to be your tool
         - ( w = i p?) me insit euro e se mond
   class Demoh
    public static void main (String cuer [ ]) {
          Rentangle &= new Rentangle (5,10) $
           Triangle t = new torioungle (5/10);
           Circle c = new Circle (5/5) ; se = 11
                       Slucery 5 = Sc. rost Live ();
            Shapes;
              S = x (, ) Love - coch (,) x = 2
           System out paintles l'The and of Rectaugh: +5. print and
    3=t:
System out println ("The area of triumgh: +s. print-area ();
   System. out println(" The area of circle: +5: print-area (1);
                                  1 1/2 do 1 260 1.3
                                  1) the print to
```

```
=> using A Bank day to derive Sourings and when accomp
     import java · util. Scanner;
        clau Bounk &
             public static void main (String argr []) {
                   boolean not true
            Scarner sc = new Scarner (System in);
              while (nxt) h
              System out paintle ("Eenter 1 for Scuring Account");
             System out print lir C'Enter 2 for 'current de court'");
       Sydem out print lu l'Enter the type of auount");
          Ent n = Sc. next Int ();
          String s = sc. next line();
                                         (2 squal)?
             4(n==1)4
    Sav-acet ob = new Sav-acet ();
               Sydem. out. printle ("Enter name");
    ob name = sc. next Line ();
               System out print lu ("Enth auout number")
   ob. acono = sc. next Int();
                Ob accept Balance ();
                ob. displaye);
                ob. Compute();
                ob. withdraw();
                 ob. chapbe();
             du 4
               Com-aut ob = new au aut ():
              System. out. println (" Enter Norme");
            ob. name = sc. next line();
             Sy et com. out. print lu ("Enter eu number");
               ob. ace no= se. next Int();
```

```
ob. allept Balance ():
 Ob. checkenin ();
  ob. display():
  ob. withdraw();
 ob. eliqbk();
System out paintle ("Ente 1 for next contoner, Enter 2 to end");
   out c = sc. nextInt();
    if (c==1)
       continue;
        nxt=falle;
                   DER ERSEN MUNICIPALITY NO. 2
                   of the strength of the transfer is a
                              + busish & solution
       int au no;
        String outype:
  clour Eurant extende Account &
                            and Bolant () [
   double balance;
   Void accept Balance () {
     Scanner Sc = new Scanner (Syctem in);
     System out paintle ("Enter déposit amount");
    double d = Sc. nextDouble();
       balance+=d;
    void display()4
        System. out. print lu ("Balance: +balance");
     Void withdraw(12
        Scanner SC= new Scanner (System in);
        System. out. paint la ("Enter the amount to withdraw");
    int w = Sc. next Int ()
      System, out. printler ("Balance: + balance); }
```

```
Jud chekmin()4
       if (balance < 500) 4
            balance -= 50;
System out print lu ("service charge of Rs. 50/- hou been imported");
Sydem out paint lu ("Balance after deduction: "+ balance);
   return;
 void chabk ()4
     Syden. out print lu ("Nouve: "+ super. nouve);
  System. out. printler ("Accourt Number: "+ Super. areno);
  System. out println ("Balance: "+ balance):
Sy dem. out. printle ("Account type! convent account);
class Saw-aut extends Account ?
     double balance;
      void augt Balance () (
        Scource 31 = nevo Scource (System con)?
 System out print la ("Enter déposét aurant");
    double d 2 Sc next Double();
      balanu+ = d;
 void display() h
   Syden outprintle ("Balance: "+ balance);
  void compute () {
     Scanner scanner (System. in);
  System out print la ("Inter duration in monthy");
      int n = Sc. nextInt();
       balank + = (0,025*n);
```

```
Scanner & new Scanner (Sy demin);

System out printle ("Enter amount to cultidua");

Let us & c. next Int();

bolance = co;

System out printle ("Bolance "+ bolance);

Void etaph() {

System out printle ("Noure: + super name);

System out printle ("Noure: + super acces);

System out printle ("Bolance: "+ bolance);

System out printle ("Bolance: "+ bolance);

System out printle ("Bolance: "+ bolance);

System out printle ("Bolance: "+ bolance);
```

```
LAB 6
Package CIE program
 file Internals java: -
      import java util. *;
                          of white strains wis day
    public class Internals {
        public int & iternals[]= new int [5];
        Scarner linput = new Scarner (System.in);
        public void Get Details () {
            System.out. paintly ("Enter marks of CIE: \n");
              tor ( aut i=1; 12=5; j++) ( )
      System. out paintly ("Enter marks of course: "+i);
                    cinternals [j-1] = input. next Int ();
        turber of public that the server of the sound
     Student: Fala; show and now a multireng two will
       parkage CIE;
       public dan Student ( 1000 11)
               public String name;
    public ant win;
                public int sein; [1]
```

```
package see;
import jour util, Scanner;
 Import CIE. *;
 public day externals extends Student of
      public int sementer [] = new int [5];
       Scanner in = new Scanner (System in);
 public void Enter Detaily (liti)[ 10 destalled boy subject
      System out paintle ("Student "+i);
      System out print lu l'Enter the user of the student: In);
    un: in next Int();
     System out putally (Enter the name of the student: \n');
      name = in, next ();
     Sydem. out paith ("Enter the seen of the student: \n");
      Sam = in. next Int ();
    System out println("Enter the marks of SEE: ")
              for (int j=0; j <5; j++) {
                 Sy tem. out. print la C"Entre the mark, of courte +(1).
               Semester [i] = is next Int();
          3
```

externals your! -

```
marker java
 package maker;
 import CIE, *;
 import see . *;
 import jour utal. ";
  clau marks &
      public static void main (String args []) {
           out n;
          Scarnes in = new Scarner (System. in);
        System. out. peonts ("Enter the number of student; 'n");
            n=in. next Int ();
       Enternal [] a cie= new Internal, [m];
       externals[] sem = new externals[n];
     to (int i=0; icn; i++) {
                                          Sem [i] = new externals (1;
                                     ) U.G. 1997 32 + (17 whom
            sem(i]. Enter Detaily (i+1); (it) for the second in the second
           cee (i) = new Internals (); () who may two making?
            cie[i]. Evet Details (1;
   System. out. puintly ("The Marks and Details of Students Registered are: (");
for canat ( = 0; i < n; i++) {
       Sy vem. out. paint les (" student "+ (j+1));
       Sy demond. printle ("USN" + sent 3] eurs);
       Sy et en out paintle ("Name: "+8 en []. name);
       Sy dem. out. printle (" sementer. "+ sem []]. sem);
   System. out. printen ("E.Final marks: \n');
   Sy dem out paintly ("Course"+ (i+1) + 6"1" n'+ ((sen Es). semeste Ei/2)
 forcint i=0; i25; i++) {
                        + cie[i]. internals [i]);
        Sg dem out, purtle ();
```

```
Tellijava:-
package text;
import Java. util *;
clau std
String un, name;
  Static unt credita[];
   Static double marks [];
 void input (int n)
 Scanner se= new Scanner (System. in);
 System. out. printer ("cuter um and name:");
  www = Sc. next Line();
  nam = sc. next line();
  Syctem. out-paintly ("enter marks along with credit");
 for ( untico; i(n; it)
   1 marks (i) = sc. text Double ();
      coudity (i)= se-negtitud ();
       Sydem out printle();
    double calculate ( wit n)
    aut c, cred =0;
    doubly tot; total =0.0;
     for Lint i=0; izn ", i++)
        to z marke [i]:
       of (+ct >=90).
                 ez10;
                 elu y (+d >= 90)
                  (29;
                  else y (+ot >=70)
                  C=8'
                  elu y(tot>=60)
```

```
C=7 ;
elu ( (tot >= 50)
 c=6;
 elu y (tot >=40)
cz4:
  elle
(=0)
  total = total + (excuditici);
  and = and + andita (i);
 total = total / cred;
 itum (+otal);
 3
void display ( int n, doble Total)
 Egiten. ort. paintle ("neum of student: "+noume);
  Sytem. out. paintle ("un of Student: "+usn);
  Sytem. ent. println (" marker of stardent along with credit of
                           coure");
   for (unti=0; i(n; i++)
   System out printen (marta li] * ", ", audits [i]);
   Syden-out-printlul"sypa el sterdent: "+total);
   1
   clar rest ?
    public world main (String augr [3)
    Scanner 3c= new Scanner (System. in);
      std obj=new.std();
      System out printly l'enter no of course");
        ent n= gc. next Ind ();
```

```
doj. erediti z new doubli [n];

obj. made z new doubli [n];

cbi. ciput(n);

double total = obj. calculate(n);

obj. display (n, total);

3

111. Hillsen + Lasters

113. Hillsen + Lasters

113. Hillsen + Lasters

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117. Hillsen + Lasters

118. Hillsen + Lasters

119. Hill
```

```
LABT
clan TwoGen < T, V>1
                                  Lond tower state.
     T 0611
                                          and at the
     V 062;
     Two Gron (T 01, V 02) {
     ob 1 = 01:
     052 = 02;
  void Show Typer() {
   Sy tem. out. printle Type of Tis + observeday (). get Norme ());
  System out.p sintln ("Type of Vii" + 062. getclas (), get Name());
                                      class se etual follos
  T.g et ob 1() f
                                             i pas tu
    actum ob 1;
                                             " Low bow
                                    11/100 8 001 1)4
   V getob2(){
                                           104
    return ob2;
                                  par strick burgers
   entire therein who remains the the or agree to be
 clay Simphenh
   public static void main (String args[]){
  Two Gren & Integere, String > tgobj =
   new two Cren & Integer, String> (88, "Generics");
  +gdoj. ShaoTypes();
                                ( 100 1 mg ) b
  ent v = tyobj.getob1();
  System. out. printer ("value: "+ V");
   String str = tgObj.getob2();
 System. out. printle ("value + ^+sts);
```

```
LAB8
package interface-exceptionhandling;
    class Fother extends Exception (
          pairale int Fage;
          Father () { }
         Fother (inta) {
           Fage = a:
                                                  MALL TO THE
     public String to String () 4
              return "Forther age count be negetive: ";
  clay son extends Father &
           int sage:
            unt fage !
            Son ( int s, int 1) 4
               sage = s;
               lage = 1:
         public String to String () {
               return Father age cannot be less than or agred to son the
      class Exception (
           Static void agilanpur (int dage, int sage) thous son ?
                   4 ( dage L = sage)
                   throw new son (sag, dage);
           3
```

```
Static Void Negativ Age Check (int age) throw Father 4
            4 (age (0)
             + show new Flather (age);
        3
public static vaid main (string angi []) {
      try 6
           Negotiv Age Check (-30);
    catch (Fother C) f
             syctem, out paint luce); (1)
                                    Three (2006)
       try 1 Age Compan (16,26); 3
                            f ( a stypic barpes Russ ) wi
         'ed ch (sonc) from with housely the wo
             System. out. printle (e):
     3
```

```
LABQ
class New Thread extends Thread (
   NewThread (14
    Super 1" Demo thrend");
   Sy dem one punt "child threat: "+This);
     Staut();
    public void aun ()1
     try 9
      for ( ait i = 0; i < 15; i++) {
      Sydem. out. printle (" Child Thread: CSE"):
        Thread . sleep (2000);
      3 catch (Interepted Exeptine) {
        System out pundle (" Child interrupted!")",
        1
     Sydem out, puintly ("Exiting elild thread"):
      3
     class Thread 2 t
     public static void main (String orgrED)4
      new New Thread ():
       try 4
       for (in i=0; i(3; i++){
       Sydem out purtly ("Main Thread: BMS college of Engrewing")
       Thread slep (10000):
      3
      3
```

Cotch (Intrupted Exaption e) {

System out paintly ("Main thread interrupted.");

System out paintly ("Main thread exiting.");

3

3

() ilination

```
LAB 10:-
import jours aust . *;
import java. enot. event. *;
 public class lab 10 extends Frame implements Action Listener (
           Text Field num 1, num 2;
             Label ob:
             Button n;
             lab 10 () {
            num 1 = new. Text Field ();
             runs 1. Set Bound (50, 50, 200, 25):
              num 2 = new Text Field ():
              neum 2. set Bounds (50, 100, 200, 25);
               ob = new label();
               Ob. Set Bound (50, 150, 300, 50);
              nz new Butten ("Divide");
               n. set Bound (50, 200, (00, 50):
                n. addAction Listnes (this):
              add(n);
            add (num);
             add (num 2);
              add (0b):
              setsize (800, 800);
              set Layout (null);
               set Visible (true);
```

```
public void action Performed (Action Event e) &
    try &
           String n1 = num1 getTert();
            String n 2 = num 2. get Text();
         do. setteri ("austient:"+ (Integer paveInt (n1)/Integer, paveInt
                                           (n2)));
        3
    coden (Number Found Exeption 2e) 4
          ob: setText ("Cound divide non-inter value");
     cotch (Authematic Exeption Ze) {
             cb. setText ("Cannot Divide);
      (witch (Exeption ex) (
        System. Oct. printer (ex);
       public static void main (string (] augs) 4
         new labso();
         3
```