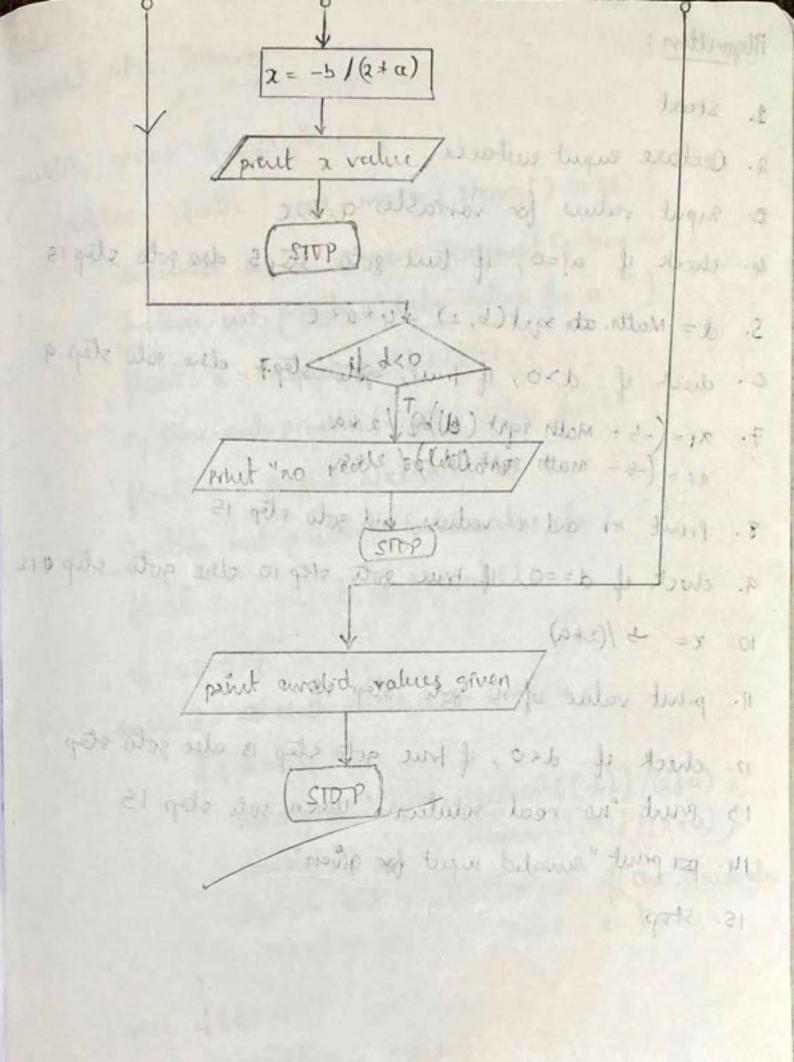
hab Program 1 Q=# Q. Develop a Java program that prints all real to the quadratic equation ar + 5x+c. electa out popular 1 Blowchart (START) (Amos 57 redare enjut enclance Supert values for a, s, c/ d = Math. sqet (1,2) - 4 * a * (E/4 d>0 21= (-6 + Mouth-sqn(d))/2+4 22 = (-1 - MUHI -57+ (d))/2+4 /prout x, and x2 values/



Algorithm:

- 1. Start
- a. Declare enput enstance
- 3. Input values for variables a, 5, c
- 4. check if a != 0, if two soto step 5 dre soto step is
- 5. d= Mattr. at sqrt(b, 2) 4 + a + c
- c. duck if d>0, if true, gots step# else sate step 9
- 7. $x_1 = (-5 + Math. sqrt(d)) 2 / 2 * a$ $a_2 = (-5 - Math. sqrt(d)) / 2 * a$
- 8. Prenet x1 and x2 values, and goto stop 15
- q. check if d==0, if true sote step 10 else goto step #12
- 10. x= -5/(2+a)
- 11. print value of n soto step 15.
- 12. check if dxo, if true goto step 13 else goto step
- 13 print "no real solution" when soto step 15
- 14. pri prhut "envalid mput for given"
- 15. Stop

```
auport. util. Scanner
code:
                              sylling out pruller
public class Quadralic () &
    public static void main (string[] args) {
        Scanner enpert = new Scanner (System. en);
        System. out. printtn ("Enter value for a: ");
        float a = enput. next float (); to me !!
        system. out. println ("Enter value for 5:");
         float b = enput. nentBloat();
         System. aut. printly ("Enter value for c:");
        float c = enput. next float ();
         if (a!=0) {
       double d= as Math. pow(b, 2) - le* a * c;
                 double 21 = (-5 + Math.squt(d))/(2*a);
double 22 = (-6 - Math.squt(d))/(2*a);
              if (d>0){
                 Bystem. aut. printh (" * Roots of the Quadrabic
                   Equation are"+ ×1+ "and" + ×12);
        else if (d ==0) {
                  double x = -5/(2 * a);
                  system. out. printles (" Root of the quadratic
                     Equation is" + 2);
```

dsel System. out. pruths (" The quadration Equation by no real roots") | 1 10 selections and g (spin Elporte) man how shots while Scorman viget or your Scormans Spectrum of else?

System. out. printly (", Invalid Figure"); (" by not sules (" book or sules for be) Most be requite west thout Control profile (Entervalue for a) Output: 1: Enter the coefficient of the 2 2/2 buts the coefficient of n double it - its Maille pourt b tuter the constant value (1006) 1(0<6)4 The roots of the equation are 3.0 and 2.0; the transfer are a company outret? outr coefficient of a line will be to the coeffi

entr constant value guralid angut output 3: enter coefficient of 2/2 enter coefficient of a Entr constant value The quadratic Equation has real sets noots output 4: Enter the coefficient of x12 entr the coefficient of n Entr the constant value The root of the equation is: 1.0 of select lastery too intell

```
Enter the coeffecient of x^2: 1
Finter the coeffecient of x: -3
Enter the constant value: 2
The Quadratic Equation has two real values for x.
Solution 1: 2.0
Solution 2: 1.0
Do you want to continue? (y/n): y
Enter the coeffecient of x^2: 1
Finter the coeffecient of x: -2
Enter the constant value: 1
The Quadratic Equation has one real value for x.
Solution: 1.0
Do you want to continue? (y/n): y
Finter the coeffecient of x^2: 2
Enter the coeffecient of x: 1
Enter the constant value: 3
The Quadratic Equation has no real values for x.
Do you want to continue? (y/n): n
```

-Abhinav Raghu 1B22CS005

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who the western while

program to create a class student Q. Develop a Java with members uson, name, an array cutlits and any array marks. Include methods to accepte and dingle defails and a method to calculate SCIPA of a to the selfer way student.

supert java-util. Scamer; does student &

String usn; a love and readers a dordone string name; out [] oudits"; int[] marks;

Student () {

crediti = new int[5];

crediti = new int[5];

marks = new ent[5];

public void teletails () {

Scanner scanner = new Scanner (System. in) System. out. println ("buter USN"); Uson = scanner. rest();

```
System. out. prently ("Entracue:")
  Name = scammer. rent();
   system. out. proutly ("Enter Gedite and mass
                    for 5 subjects: ");
    for ( ent i = 0; ( 15; i++) {
       system out printly ("Enter aedits: ");
       credits[i] = scomes.rexInt();
       system. out. p. nuth ("Enter marks:");
       marks [i] = scanner nent Int();
public void display () &
     System. out. proutln ("USN:" + wen);
      System. out. println ("Name: " + name);
      system. out. printer ("Mours" * muchs and credits");
       for (ent i=0; i ks; it) [
           System out. printles (" baidits: " + ceclitici])
       1 System.out. printin("marks:" + marks [i]);
```

```
public double SCIPA ?
     double total_cudite = 0;
      double total sum = 0;
      for (unti=0) 145; 8H) }
         total audit + = credit [i];
      total sum + = gradepoint (neuts[?]) * (sedit)
      return total sun/total-credit;
public ant cradepoint (but nails)?
       if (marts >=90) &
         return 107
       I else if (mucho >= 80) {
          return ?;
       felse of (mails >=70) {
           setur 81.
       3 du 4 (marks >= 60) {
            return 7;
         dre if (martie) > = 50 }
            return 6;
       I alse {
            . return 0;
```

public class Meen & of public static void main (Struy [] args) & student student = new Student(); student. details(); . System. out. println ("In starts"); Sys student-display(); System. out. printlin ("In SGPA:"+ Student. SGPA())1 of the best of the contract of The Lot of the last of the half hot of [[] which has been a forter and the formattelet the method something of water makes

Algorithm: I will soul A. Declare variables USN, name, credits, marks; 3. Input values for USN, name, oredits, marks; 4. En another method to calculate sorpa 5. In sort meltind, enitialize variables endets and total som to 0; 6. for loop enditin (1=0; 1<5; 1++) total_cudits += cudits (+) * cudits (+) * cudits (marks[i]) * cudits total-sum += gradepoint (marks[i]) * cudits 7. When value for SGPA function as total som/ total and 8. Quate grade point method. and duck for marks unditton 7. 4 news >=90 -> return 10 4 new >= PO - return 9 if mails >= 70 - return P

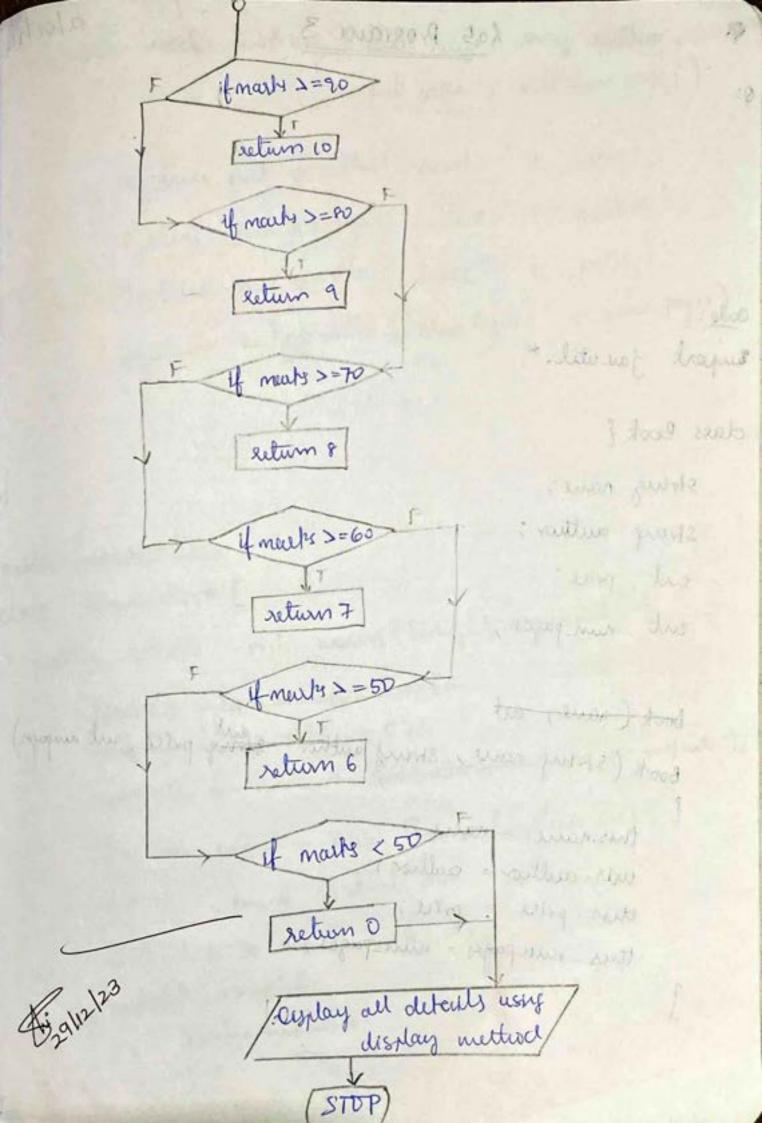
If maets >= 60 -> return 7

if mate >= 50 - Internal
else -> fail -> return 0

on the main function call the function
details to expelt details and desplay function
to desplay it.

the state of the same of the

Flow cheet: (start) Dedare vorpulses Name, USA, marks and widity Input values to all variables/ mutalize variables total ceedets and total sm for(1=0; 115; 1++) > total cuditi += cuditi [1] total_sun += gradupint(martis[1]) * yellt return total em/total cudits sectore function gradyout



Enter USN: 1BM22CS005

Enter Name: Abhinav Raghu

Enter Number of Subjects: 5

Enter number of credits for Subject 1: 4

Enter marks recieved for Subject 1: 92

Enter number of credits for Subject 2: 3

Enter marks recieved for Subject 2: 89

Enter number of credits for Subject 3: 2

Enter marks recieved for Subject 3: 97

Enter number of credits for Subject 4: 1

Enter marks recieved for Subject 4: 98

Enter number of credits for Subject 5: 4

Enter marks recieved for Subject 5: 88

Student details:

USN: 1BM22CS005

Name: Abhinav Raghu

Credits for Subject 1: 4

Marks recieved for Subject 1: 92

Credits for Subject 2: 3

Marks recieved for Subject 2: 89

Credits for Subject 3: 2

Marks recieved for Subject 3: 97

Credits for Subject 4: 1

Marks recieved for Subject 4: 98

Credits for Subject 5: 4

Marks recieved for Subject 5: 88

SGPA: 9.5

-Abhinav Raghu 1B22CS005

```
Coolo:
Eupert jav. util. *
class Book f
    streng name;
    string author;
    ent price;
    ent nun pages;
     Book ( nave, at
     Book ( string name, strong author, string price, out myggs)
        trus.name = name;
         this author = author)
         thus price = price;
        this - numpages = numpages;
```

```
public road tosting (string name, string author,
                     out price, out numpages)
        system. out. pruth ("Noure: " + name);
        system. out. prulter (" nulter: " + author),
        System out-printlin ("price!" + price);
        system. ent. prutter ("Num-Payer: " + num-payer);
                     The Language & a bil
                   vilor ) willing the miller
                (Blotton lune pe , the
pulle state voi
class Programbork {
  public static void main (strug[], argument) {
      Book[] be - new Book[A-
       ent 1 = 3; ent i = 0;
       Brook [] b = new Book [n] - System out printler ("Gutir no of books:");
       Scarner enput = new Scarner (System. En);
       eut n = enput. nextInt();
        Book[] b = new Book[n];
        while (n>-0){
            b[a] = input n.
```

while Cn >= 0) { System. out. prutter ("Enter neue: "); blagie + blid = new book

out n = new exput. nent() System. out. practler ("Enter author:"); ent a = enput.nent(); system. ent- prouter (" inter price"); out p = ey enjuit. nent Tut(); System. out. prutty ("Euter um pages:"); out neur = euput nenthat(); Book b[n] = new Book (n, a, p, num); n=n-1; b[n]. to 8 Kruy();

4

Second States

the second of

Algorithm:

1. start

2. create class book with variables name, author, price and num-pages; and a parametrice constructors

Las - program - Las

- 3. create to string method to display the values.
- 4. In the main create a scanner enstance to enjury value for the variables and mentioned in Book deel.
- s. After enjutting the values pass those values through the constructor.
- 6. call function string to print et technique external sh

7. & Hop

- Dough I Modulinite that with an engineer with a

nother rectingly (and langth a stan

11) with the bay

Expression + for menta = sais the and Develop Forthern bis mily?

```
Enter the number of Books: 2
Enter details for Book 1:
Name: The Catcher in the Rye
Author: J.D. Salinger
Price: 14.99
Number of Pages: 224
Details: A coming-of-age novel capturing teenage angst.
Enter details for Book 2:
Name: The Hobbit
Author: J.R.R. Tolkien
Price: 19.99
Number of Pages: 310
Details:
Book [name=The Catcher in the Rye, author=J.D. Salinger, price=14.99, num pages=224 ,details: A coming-of-age novel capturing teenage angst.]
Book [name=The Hobbit, author=J.R.R. Tolkien, price=19.99, num_pages=310 ,details: ]
-Abhinav Raghu
 1B22CS005
```

```
Las - Program - 4
      Sulley that that with warrieter moure andher.
       water with a pulling a true was the
     menter wit material to shortless parters the values
abstract dan shape ?
     ent demension 2;
           ent demichina 2 > 1 faithagus ad philip
            void print Area () [
      Pectargle extends shape ?
dass
                             lugth, out width)?
          public rectangle Chut
                             bught;
              tus. dimension 1=
          g this dimension 2 =
                              mudth ;
          void print Area() {
              ent over = dimension 1 * dimension2;
System. out. printly ("Rectangle Area;" +
```

```
class triangle extends shape &
        public Triangle (int save, out height) ?
             thus. dimension 1 = base;
              this. dhren sion 2 = height;
        void printArea (12
            double area = 0.5 + direction 1.x
                            dueusin 2 >
             system. out. println ("Triagle are:"
                                + alca);
dass circles entends shape (
         public Circle (but radius) {
             trius. dimunsion 1 = radious;
                                           A LOCK WITH
            Utro dumini2 = 0;
                                            tooks &
          void print Area () {
             double area = @Mam.PE & divension 1
                          * dinection 1;
            System. out. printly (" & circle area:
                      + aucr);
```

bother mothery perfects

class froman-shapet public static void main (stry [], argument) rec = new Rectougle (5,10); Rectough hi = new Triangle (4,7); Diagle cir = new (incle (2); cercle sec. print Areal); mi. prunt Arca () 1 cis. purtareal); 1 sante donne los fordes mil 3 (must av tota) about setting Million = Listanowie 145 Algorittu 1. start 2. create abstract days shape and create variably durensin I and dimension 2 and a function print Area 's evente classes rectangle, auportry all now prough, and that extends to does shape 4. specify different print Area wellhood on each to overide the oversting print Areas method

5. But set the area or restricte closes as area = 0-5 + dimension 1 + dimension 2; and area our rectouple down or ala = dimension 1 * dhuen +m2 and area en cerde dall as area = math. PI & dimension 1 x demension 2; 6. In make method, create constructores and only the print the values of all the print the values of call the printheal) meltiod to print and maybe the areas of cold the rectorate, circle and maybe markers to the house touch that there seemen have the day war and how and make the reproduced all abulant abundance New Man of orflege enthods on order to acturine the following bushes enoled all alabous and suntern most tragel types (1) Described the balance (c) compute and appoint wheelt (4) sound at shape by to bear of the below to obselve for the neumnum boliness engage penalty of

```
Area of Rectangle: 180
Area of Triangle: 40.0
Area of circle: 78.53981633974483
```

-Abhinav Raghu 1B22CS005

Develop a Java program to create a class Bouck that maintains tun bends of account for its customers, one called savings account for ets oustoned and this other assent account. The savings account and the provide compand entrest and with drawal facilities but no check book facility. The event account provides check book facility but no entrest. curent account holder should a also maintain a uninum balance and of the salarce falls below this level, a service charge of emposed. Create a dash occount that stores customer name, account number and type of account. From this device the down our-acet and sav-acet make them more specific to their vopulements. Include the necessary nettods en order to achine the following tasks:

- (a) Accept deposit from customer and update the balance
- (5) Desplay the solute
- (c) compute and deposit untest
- (d) sewet withdrawal and update the balence.

check for the numinum balance, empose penalty of necessary and update the balance

```
expert o java-util. Scamer
dass Account &
    string austonierName;
    long account Number,
     smy accountlype;
     double saluce;
     public Account ( String customerslane, long accounts huber,
                    smy accountlype) {
        His. customer Naw - customer Nauce;
       this account Number = account Number;
         this - accountype = accountrype;
         this, balance = 0.0%
     public void dynast (double amount) {
              salare = salarer + amount /
              Eyeleter, out- prouter (" updated Galace: " + Salue)
     public void display balance () ?

System out prouble ("Accourt balance: + Galance);
```

```
class aux Acct extends Account ?
            double minemuns = 1000
            double suicecharge = 40
            justic curs Act (Stry customer Name, top long
                            account Nambers) {
                 this. customer Name = customer Name;
                 this account Number - account Number;
                 this account hype = " account i j
                this salence = 0.0;
            public void deposit (double amount) {
                     System out printer (" updated bulance: " +
                                             salance)
                   minbalance();
             public void nuntalance() {
                  if ( Salance & minibalance) &
                        balance = balance - servicecharge!
                   9 rystus out-pulls (" suite drage report

g deleted Balance: "+ Salance);
```

```
Saw Acct extends Account ?
    double entrest Rate = 0.05%
    public SanAcct (String customerName, Long
                   accent Numbers) {
          this. costones = customer Name;
          this account Number = account Number;
          this account type = "sareys";
         this salarce = 0;
   public void compute intrest () }

double survest = Section to intrest that i

              Mosalance = Salance + mbrest
              system. out. printh ("Updated balaca:
               + Balance);
   public void Deposit (Idouble amount) &
              System out prutter ("Updated: "+ Salure);
               computaturest();
        ( ) xuntal palper - dayson & dayson
```

public void withdraw (double amount) ? of (amount @ <= salance) & System out printly ("opated Balan" + salarce); they continued - confined with del shally and one System out-println (" book account salue is not enough"); class bank ? public static void nam (string[], args) { Current Account = new Current ("John Doe") 9234561110 Sav Acct savings Account - new Sav Acct (" good fruits) 98765432) Saving Account Cuescost Account deposit (1500); Eusand Account displaybolance () /

Swing Account depart (2000) ; Saving Account. display balance (); saven Account. willtednaw (SUR); see a good court man relieure 1940; 1 the state of the second section with the second

Higorilling

1. Start

2. Plate class account and declare variables austrumany accountshuber, accountryre, balance.

william the treasure shrupto

3 m the account class create method Account, deposit, and display salaur, which are went to where account metter d is used & enter the customer details and deposits mellad is used to increase the Calauci amount with the deposited amount and the deplaybelace meltered is used to show the account

Create class Curract extending to Account class touts the minimum salance and service charge variable and enstalize some values. promoter of

5. weath methods to get westomer details, departs amount and amother method to apply saving charge to of the salace is less than the mention required balance

- Create class sevacet that extends to class according to variable entrestrate to one
- 7. orate methods on that to the get austomer delay deposite amount and another multiple to compared to compared to make the makes that why the formula solute * (1+ (0.05/12)) balance.

 and also went a method to reduce salary amount upon with drawal and also show of the amount to be with drawn is more than the available salance.
- 8. orale the main class bench.
- 9. In the main method of this class grate rand account one savings account and savings account which are used to expect values for desired account and the savings account.
- 10. provide values to the saccourts and display the balance
 - 11. STOP.

```
Enter the number of customers: 4
Enter details for Customer 1:
Customer Name: Rajesh
Account Type (Savings/Current): Savings
Account Number: 453489
Initial Balance: 80000
Operations on Savings Account:

    Deposit

Withdraw
Display Balance
Deposit Interest
Move to next customer
Enter your choice (1-5): 3
Account Number: 453489
Customer Name: Rajesh
Account Type: Savings
Current Balance: 80000.0
Operations on Savings Account:
1. Deposit
Withdraw
Display Balance
Deposit Interest
Move to next customer
Enter your choice (1-5): 1
Enter deposit amount: 1400
Deposit successful. Updated balance: 81400.0
Operations on Savings Account:

    Deposit

2. Withdraw
Display Balance
Deposit Interest
Move to next customer
Enter your choice (1-5): 2
Enter withdrawal amount: 400
Withdrawal successful. Updated balance: 81000.0
```

Operations on Savings Account:

- 1. Deposit
- 2. Withdraw
- Display Balance
- Deposit Interest
- 5. Move to next customer

Enter your choice (1-5): 3

Account Number: 453489

Customer Name: Rajesh Account Type: Savings

Current Balance: 81000.0

Operations on Savings Account:

- 1. Deposit
- 2. Withdraw
- 3. Display Balance
- 4. Deposit Interest
- Move to next customer

Enter your choice (1-5): 4

Enter interest rate for savings account: 10 Interest deposited. Updated balance: 89100.0

Operations on Savings Account:

- 1. Deposit
- 2. Withdraw
- 3. Display Balance
- 4. Deposit Interest
- 5. Move to next customer

Enter your choice (1-5): 5

Enter details for Customer 2:

Customer Name: Suraj

Account Type (Savings/Current): Current

Account Number: 334578 Initial Balance: 90000 Minimum Balance: 20000 Service Charge: 1500

Operations on Current Account:

- 1. Deposit
- 2. Withdraw
- 3. Display Balance
- 4. Move to next customer

Enter your choice (1-4): 3

Account Number: 334578

Customer Name: Suraj

Account Type: Current

Current Balance: 90000.0

Operations on Current Account:

- 1. Deposit
- 2. Withdraw
- Display Balance
- Move to next customer

Enter your choice (1-4): 2

Enter withdrawal amount: 10000

Withdrawal successful. Updated balance: 80000.0

Operations on Current Account:

- Deposit
- Withdraw
- Display Balance
- 4. Move to next customer

Enter your choice (1-4): 2

Enter withdrawal amount: 70000

Withdrawal successful, but below minimum balance.

Excess amount: 50000.0

Balance after excess withdrawal: 80000.0

Service charge imposed. Updated balance: 8500.0

Operations on Current Account:

- 1. Deposit
- Withdraw
- Display Balance
- 4. Move to next customer

Enter your choice (1-4): 3

Account Number: 334578

Customer Name: Suraj Account Type: Current

Current Balance: 8500.0

Operations on Current Account:

- 1. Deposit
- 2. Withdraw
- 3. Display Balance
- Move to next customer

Enter your choice (1-4): 1

Enter deposit amount: 10000

Deposit successful. Updated balance: 18500.0

Operations on Current Account:

- 1. Deposit
- 2. Withdraw
- Display Balance
- Move to next customer

Enter your choice (1-4): 4

Enter details for Customer 3:

Customer Name: Lokesh

Account Type (Savings/Current): Savings

Account Number: 45763 Initial Balance: 50000

Operations on Savings Account:

- Deposit
- 2. Withdraw
- 3. Display Balance
- 4. Deposit Interest
- Move to next customer

Enter your choice (1-5): 5

Operations on Savings Account: 1. Deposit 2. Withdraw 3. Display Balance 4. Deposit Interest 5. Exit

Enter your choice (1-5): 2

Enter withdrawal amount: 400

Withdrawal successful. Updated balance: 51000.0

Operations on Savings Account:

- 1. Deposit
- 2. Withdraw
- 3. Display Balance
- Deposit Interest
- 5. Exit

Enter your choice (1-5): 3

Account Number: 45763

Customer Name: Lokesh

Account Type: Savings

Current Balance: 51000.0

Operations on Savings Account:

- 1. Deposit
- 2. Withdraw
- 3. Display Balance
- Deposit Interest
- 5. Exit

Enter your choice (1-5): 5

Abhinav Raghu

q. create a package CIE which has two classesstadent and Internals. The dars reisonal has nembers like usw, name, sem. The class internals has an aeray that stores the enternal marks scored en fine centers of the assent semester. of the student. Create another package SEE which has the dass External which is a derived class of student. This class has an array that stores the SEE marks scored en five course of the current remester of the student-Turpert the two packages en a fale that declares the fenal marks of a students en all fine cources.

pullic does Student &
streng user, name;
ent semi;

public class Internals extends student?

out[] enternal Marks = new out [5];

```
package SEE;
                               TED Boanding a
  unport CIE. Student;
  public dars External extends students?
   out [] sumarks = new ent[5];
  There is the remain of the reserved will be in
    302 agalong tothers duck husbile w
 emport CIE. Internal:
 emport ste. Internale jo to state of south of
public class Meine?

public static void main (strug[] args)?

int n=5;
Internals[] enternal Students = new Internals[i]
               External[] external students = new External[]
                for Cent 1=0; icn; itt) {
                     enternal students [i] = new Internals();
                    autemnal Students []. usn = "USN" + i
                     enternal students [i]. name = "Student" +i)
                   puternal Students [?]. sem = 2;
           enternal Students [:]. enternal Marks =
                     new ent[] ( 10,75, 20,85,88);
```

```
octemal students[i] - new External ();
        onternal students[i]. usn = "USN" + i";
        enternal students[i]. name = "Student" + i)
        external students[i]. seum = 2;
        external students [i] = new seeMarks =

new sent[] {75,80,85,92,76};
         for Cent P=0; 121; 1+1) {
             System. out. pruttis ("Studed" + i +"
                          - mul marks: ");
         for (out j=0; jes; s++) {
               ent faral Masts =
               entimal stadenty [i]. enternal Marks []
               + Folianal Students [?]. see Marks [j];
              system ent-prutty ("lowese" + (j+1)+":"+
                   final Marts);
         system out quetter ();
 Just essents with many of the south landers has been then
           he followed to belle abyte doed (it
Japan with me herestone eveni Araba horastone bis
```

Al sorithm:

1 Geate package CIt

1. start.

2. Mereate package CIE and create class student of declare variables name, uson and semi with appropriate data type

(ii) weak another class and internals that ortund student dass. And declare array entimeds to store the enternal marks

- 3. (1) weath package SEE and unpart the package CIF who was already obsaled.
 - (ii) create a class Externals that ontend the still declare alray declare alray seeMarks with 826 5.
 - 4. C) Greate another Malu fele and report the packages
 CIE and SEE already created.
 - (1) In the man function entralize in weth 5.
 - (ii) breate objects called the termalstude and external students of from the clarses hills and external which were declared on the many packages.

(N) create a for loop which runs for n tunes to take a cuputs for internals and externals (1) weate another for loop which again runs in lines to print the fenal nearly for each course white without the said the said of the 5. Stop. 5 2 ble may tropus A madaired shute salambaterans cab

```
Number of Students: 2
Student 1
Enter USN: 1
Enter Name: A
Enter Sem: 3
Student 2
Enter USN: 2
Enter Name: B
Enter Sem: 2
Enter number of courses each student has: 5
Enter Internal marks out of 50.
Student 1
Course 1: 30
Course 2: 45
Course 3: 42
Course 4: 48
Course 5: 50
Student 2
Course 1: 25
Course 2: 30
Course 3: 44
Course 4: 36
Course 5: 38
```

```
External marks:
Course 1: 41
Course 2: 41
Course 3: 46
Course 4: 47
Course 5: 49
Total marks:
Course 1: 71
Course 2: 86
Course 3: 88
Course 4: 95
Course 5: 99
Student 2
USN: 2
Name: B
Sem: 2
Internal marks:
Course 1: 25
Course 2: 30
Course 3: 44
Course 4: 36
Course 5: 38
External marks:
Course 1: 38
Course 2: 40
Course 3: 43
Course 4: 40
Course 5: 46
Total marks:
Course 1: 63
Course 2: 70
Course 3: 87
Course 4: 76
Course 5: 84
Abhinav Raghu
```

Q: weste a program that demonstrates hardling enceptions en enheritance tree. Create a soon called "Father" and derived class called son which entereds the saxe dass. In faltier day implement a constructor which takes the age there the onception WrongAge() when the un age < 0. In son dass, sompted emplement a constructor that cases with father and son's, and theores an exception of son's age >= faltrer's age.

ruport java. whil. * i

Di class wrong Age Exception extends Exception { wrong Age Exception (Strong message) { super (message);

```
dass Father E
    private ent age;
     Father (ent age) these weorgagetxception ?
              of (age < 0) ?
                 throw new wongfeetxception ("Age
                    eaunot se negative");
                                 I INDAM TELLS
        tus age = age;
    P - 134 TH
    ent get Age () {
     return age;
    ( selectif ) not one - sinterfree not
     Son entends Father &
        private ent smage;
        Son ( ent falturage, ent sonage) throus
          - Wrang Age Exception &
               super (fattur Age);
               if (sonAge >= fallerAge) {
                  age should se but than faltur age ");
```

```
this. sonAge = sonAge;
         ent get sonAge() {
             setum sonAge;
        I purisphyradis was award
        Country so was aline?
class Matri &
    public static void main (string[] args) {

try { Scanner uput = new Scanner Crystum. in);

try {
               aut fatturtge = continut();
              cut contre = mul- next fut ();
              Son sonTustance = new Son (fatherAge, sonly
              Soptem. out. penths ("Father's age: "+
                  sonfustance set Age());
              system. out. penuth ("son's age: "+
                  sonTrustacce. getsonAge())
                   Marchalle James ()
            ( Granulla) = > phose ) [
```

catch (NounberFormattxaption e) ? System. out. pruths ("Mease enter valid euteger ages ") one outse his seconds and amelles anylytics catch (woongAgeException e) { system out pult ("Error: " * e) A Showalling Louis Louis deving 3 (Dorralus dus . 20 4201 parts) Bubert publica 200312111 = 220712111 /Jul Louislas Lavellas . With aluceson 3 (2000) dishe System out penulsy (message) (1 (000 + lovely) geet boson 3 (a consequently expensed of I Notes () so state to e pout stack cos ())

Program-7 Algorithm: Migra Myste man bon state see

- a) Cheate à dans way Agréticeptur which extend

The Market Market

- 3)(ii) coate a define the unergetesceptions constructs
 to print the ever mesage
- 3. (i) create dars father
 - (ii) create variable age
 - (iii) sente a constructor defense the constructor father to check of the age is greater than o i.e., to check if the entered age value is parties or not.
 - (iv) if the age value is not persitive throw the VeryAge Exceptions
 - (v) create an method to enteres the age value.

of treate the class Son that returned Father class (1) sofere the constructor for son which angels the the sortge and fathurage and checks of the son's age is greater than those or equal to fathering if true, then the throughzetraphen is raised. (2) leve des also a metted mand son's age es appred
to extrem son's age. 5. In the make, we create trades enstances of the dasses we have created and provide the age signet for the son and Father. 6. At last after checkly all the validity of the entired age. print the sm's and father's age. 7. white a try-cotch block to houdle the wrong Age Exception. where the time of the parties and the the sea of the plant date 8. stop. sport with the best of the comment

Error: Invalid Age

Abhinav Raghu

Error: Son's age should be less than father's age

Abhinav Raghu

Program - 8 Q. write a program which creates two thready one thread desplaying "BMS callege of Engineery" once every ten seconds and another displayers once energy two seconds. dass Display Thread entends Thread & private fenal string string message; private fenal cut enterval; Display Thread (Sheig message, out suterval) { this message = message; this mittaval = interval; system. out. peuten (mersage); Twead sleep (enterval *1000);} eater (Interrupted traption e) ?

e. printstackhau(); 3 \$ 3) :++;

des simplayMessages ? public static void mam (strug [] args)? Thread to = new DisplayThread ("BMS college of Engineerry", 10): Thread 62= new DisplayThread ("(SE", 2); t1. start(); 62. start(); race at the plant south day they The Identor along to fallings to charle of the orge to granter has or motion to be desired to down it was a · Jan 10 milion ent manest sinting for or make upo est for mil mulpert of Agrandi william from that whether is I I

Rogram - 8 Algorithus

1) Start

- 2) (i) breate a down named simpley mead which only
 - (11) create town variables message and enterval.
 - (iii) orante define the constructor to enitralize they raciables with the enjurt.
- (ir) anerde the method rund) and make a creation of which proubs the message at with mentioned by the uses.
- = 3 th the news nultised agate the tread ensteads to the and be.
 - (ii) tel instance should pass "oms collège of Enginery as the message and 10 and as the enterval which mess infends to have 10s det neterval.
 - (iii) to enstance should puss "CSE" as the message of a stree enterval to print cst at entervals offer.

 (iv) write to start() and to start be start execution
 - 4. Strp.

Abhinav Raghu CSE **BMS** CSE CSE CSE CSE **BMS** CSE CSE CSE CSE CSE **BMS** CSE CSE CSE CSE CSE BMS CSE CSE CSE CSE CSE **BMS**

a) writy a program that creates a ver enterface to to perform integer devisions. The user enters two now numbers on the text fields Num I and Num ? The division of Num I and Num 2 is displayed in the Result fuld when the seride setton is dicked. If Nun1 or Nune were not an enteger, the program would throw are Numberformattriculion. If Numl were Zero, the program would them an Arithment's Exception Duplay the exception en a nuesage dialog sox. import Javax. Suring. * uport java. aut. * unjort java. aut. event. *; tulo) bec mury public dass suring Denno? suing semo () 2 Jerame jeun = new Jerame (" Divides App"); Sfrum. set Size (275, 150); ifemin set Layent (new Plenskoujout ()); ifem. est refault Clere Operation (JFrame. EXIT_ON_EXT) Thatel jlab = new Habel ("Enter the divider and devident:");

Jentfield off - new Jentfield(8); Jentfield bilf = new Jentfield(8): Jutton button = new Joutton ("(alculate"); Jeasel est - new Jeaselli; Jeasel alab = new Jeaselu; Jlabel slub = new Jlabell); Jlabel slab = new Jlabel 1)

Jlabel auslab = new Jlabel 1) ment the exception and ifrum-add (err); ifem. add (flas); * prime xant 1 ifrum add (ajth); to two own to Herm. add (Sulton) 1 - tues me me ifrum. add (alas); Herm. add (blas); court win ? Hel ifrum add (anelas); I O amorphics Actionhectuer l = new Actionhectuer() { public void actionbefermed (ActionsEvent ext) System out printer ("Action aunt from feeld")

```
aith. add Action Lister (1);
biff. add A dtarhestrer (1);
button addActionLultrue (new Actionshirshirst) } {
     public void actionlesponed (Action Event evt) &
              ent a = Integer. passeInt (ajtf. setTent());
              out 5 = Tuteger. pousibut ( 4) H. get Tout ());
               ut aus = a/5;
               alab. settlent ("In A = " +a);
               slas. without (" mb="+5);
               auslab. settent ("InAns = " + aus);
            catch (Nuberformat Exceptions c) ?
               alab. settent ("");
                slal settent (");
                aulas. eitent ("");
                on estent ( );
                 ers set Pont ("Truter Only Enlegers!");
           catch (Arithmaticfragition e) &
                 alab. setInt("");
                 slab. settent(");
                 austeis. sel Tent (" ");
                 ess. settent (" & should se NON zoo");
```

frur. set visible (fue); by add a day a land when (1) public steetic void ments (string args[]) { suhgeteleties. envokelater(new Rumalle () { that he the public void lund? new huighmol); 3); (2+ "= A of") tool to 2. dolo f = (was + " - enter!") trather - deline 3 (a material Countries of Contraction of Color output Enter the divider and divident 12 11 11 11 21 3 [calculate] A = 12 B = 3 Misuel = 4.0 carely (Brillian proportion) Hotos 1. The the date Statle willed



Divider App

•	•			



X

Enter the divider and divident:

20

4

Calculate

A = 20 B = 4 Ans = 5

mution

845.70()

a pesize a component to have the greeffied width & height.

sethagent)

It allows us to set the layout of the container to to Howkeyout, Bordulayout, Grid Layout, etc.

action beforecal!)

> It helps manage user interactions with 600 compounts.

» It is used to set the tent enside a label or other screen element

settent()

> It returns the value from the single line-test field.

23.02.24