VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"JnanaSangama", Belgaum -590014, Karnataka.



LAB REPORT on

Object Oriented Java Programming (22CS3PCOOJ)

Submitted by

ADITYA S HUDDAR (1BM21CS007)

in partial fulfillment for the award of the degree of BACHELOR OF ENGINEERING
in
COMPUTER SCIENCE AND ENGINEERING



B.M.S. COLLEGE OF ENGINEERING
(Autonomous Institution under VTU)
BENGALURU-560019
October-2022 to Feb-2023

B. M. S. College of Engineering,

Bull Temple Road, Bangalore 560019
(Affiliated To Visvesvaraya Technological University, Belgaum)

Department of Computer Science and Engineering



CERTIFICATE

This is to certify that the Lab work entitled "Object Oriented Java Programming (22CS3PCOOJ)" carried out by **ADITYA S HUDDAR** (1BM21CS007), who is bonafide student of **B. M. S. College of Engineering.** It is in partial fulfillment for the award of **Bachelorof Engineering in Computer Science and Engineering** of the Visvesvaraya Technological University, Belgaum during the year 2022. The Lab report has been approved as it satisfies the academic requirements in respect of a Object Oriented Java Programming(22CS3PCOOJ) work prescribed for the said degree.

Dr.NANDHINI VINEETH

Assistant Professor Department of CSE BMSCE, Bengaluru **Dr. Jyothi S Nayak**Professor and Head
Department of CSE
BMSCE, Bengaluru

1) Develop a Java program that prints all real solutions to the quadratic equation ax2+bx+c = 0. Read in a, b, c and use the quadratic formula. If the discriminate b2-4ac is negative, display a message stating that there are no real solutions.

	FACE NO.
0	impost java - citil - Scanner; class guldratic ?
	cuis quadratic ?
11/15	public static void was (thing and 17);
Eline.	public static void main (string args []) ?
	double p.
	double 9;
	doubled;
	doubler;
	double ri;
	double he;
	system-ord-printfor" Suter of coefficient which is a: "
	System out printly 1 " Suter the coefficient which is b: ");
	System. out. prently ("Puter the coefficient which is c:");
- 120	hysten. out printly ("Therefore equation is "4a"x, "46"+2"+0
	1
-	System out printly (" you can't enter ofor a");
	d = (b*b-4*a*c);
- 1	if (a!=0)
	ٰ
	if(d=0) ?
	g = -b/(2*a);
	System. Out. Printly ("Therefore the roots are"+ " and "+ ")
150	elseif (d>0) &
150	B1 = (-b+Math. sqnt(b*b-4*a*c))(2*a);
	42 = (-b - Math - squt(bxb - 4xaxc))/(2+a);
200	System out-printin ("Roots are"+4, and"+92);
	9
ile.	
	PAGE NO : OAFE :
	elyc &
	0 = (-6)/(2+0):
	9/ = Math 89st (Math-abs(d)))/(2*9);
1	autus purto him that colle that hat the
	ysten out printly (" she second root" + p"-1" +9);
	\$ 50 Aug.

```
Administrator: C:\Windows\System32\cmd.exe
the second root is0.0-i0.8660254037844386
C:\Users\BMSCECSEIL74\Desktop\1BM21CS007>java quadratic
enter the coefficient of x2 whch is a:
enter the coefficient of x which is b:
enter the constant c:
the first root is0.0+i0.8660254037844386
the second root is0.0-i0.8660254037844386
C:\Users\BMSCECSEIL74\Desktop\1BM21CS007>1
'1' is not recognized as an internal or external command, operable program or batch file.
C:\Users\BMSCECSEIL74\Desktop\1BM21CS007>java quadratic
enter the coefficient of x2 whch is a:
enter the coefficient of x which is b:
enter the constant c:
therefore the roots are -0.6972243622680054 and -4.302775637731995
C:\Users\BMSCECSEIL74\Desktop\1BM21CS007>java qaudratic
Error: Could not find or load main class qaudratic
C:\Users\BMSCECSEIL74\Desktop\1BM21CS007>java quadratic enter the coefficient of x2 whch is a:
enter the coefficient of x which is b:
enter the constant c:
the first root is-2.0+i0.7071067811865476
the second root is-2.0-i0.7071067811865476
C:\Users\BMSCECSEIL74\Desktop\1BM21CS007>java quadratic enter the coefficient of x2 whch is a:
enter the coefficient of x which is b:
enter the constant c:
therefore the roots are -0.2679491924311228 and -3.732050807568877
C:\Users\BMSCECSEIL74\Desktop\1BM21CS007>java quadratic enter the coefficient of x2 whch is a:
enter the coefficient of x which is b:
enter the constant c:
therefore the roots are -1.0 and-1.0
C:\Users\BMSCECSEIL74\Desktop\1BM21CS007>_
```

2) Develop a Java program to create a class Student with members usn, name, an array credits and an array marks. Include methods to accept and display details and a method to calculate SGPA of a student.

Carlo Contract	TACE NO.
6	Panda a 'Our he are transt a day of de la
(2)	Devoto a jour program to create a class student
-	with mumbers USNo name, an array neditif
	an array members brilled methods to occupt,
70.4	display details so method to calculate sq.PA.
	2 1-1 6-14 0 1-14
	import java util scanner;
	Class student !
	Ent wedit I, marks 17, graditions 17, no
	num = 0, deno=0;
40	
	double spa;
	1 Land Strangers and make
	Scanner 8 = new Scanner (system in);
	System out printly ("Enter student name, UEN)
	name = g. next ();
	USN) = 8. MORH():
	System out printly (" Suter no & subjets");
	N = S. WEXT INF ();
	104 (1=0; 1 <n; 7++)<="" td=""></n;>
-	1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	System out printly ("Puter subject" + (it) + "maris
	masks [1] = 5 - next Int ()
-	system out printly ("guter abject"+(it)) + "anditi
	almo + = wedit [i]; if i
- 1	void calculate ()
	A STATE OF THE PARTY OF THE PAR
	fox ((=0; (< N; (++))
7.00	
	(00 = < (2) dean) fi
	gradepoint[[] = 10;
	The state of the s
	Company of the Compan
	Mod NO:
	elxiz (nares(1) > =80 ft marks (1) < 90)
3 27 9	gradipoints [i] =9;
100	enry [narks[1] > = 70 4 8 marks [1] < 80)
San Par	gradepolits [i] = 8;
	elxif (mases [i] > = 80 34 mares [8] < 70)
	grade points [1] = 7:
The same	
	0/18 (marks (1) > = 7049 marky (1) K(1)
	elset (marks (17 > = 7039 marks (1/60)
	elset (marks (i) > = 7039 marks (i) (60) Radipoints (i) = 6; elset (marks (i) > = 40 83 marks (i) < 5)
	ellet (inaster [i] > = 7033 master[i](6) keodypoints [i] = 6; ellit (master li] > +0 83 master[i](5) 900dypoints [i] = 4;
	elset (inexter (i) > = 7033 marks (i)(60) Readspoints (i) = 6; elset (noxter (i) > = 40 83 morte (i) < 50) gradipoints (i) = 4;
	elset (inaster (i) = 7039 master (i) (i) kadiparts [i] = 6; elset (inaster (i) = 7039 master (i) (so) elset (inaster (i) = 6; elset (i) = 6; elset (inaster (i) = 6; elset (i) = 6;
	elset (inastes (i) > = 7033 mostes (i)(6) Reduposità (i) = 6; elset (mostes li) > = 40 83 moste (i)(5) gradiposità (i) = 4;
	elset (inester (i) > = 7033 master(i)(6) kaolypoints [i] = 6; elset (naster i) > = 40 83 master(i)(5) gradepoints [i] = 4; ass gradepoints [i] = 0; mum + = usdin [i] + gradepoints[i];
	elset (inaster (i) > = 7039 master(i)(6) kadiparints [i] = 6; elseit (naster li) > = 40 89 master(i)(8) gradiparints [i] = 4; gradiparints [i] = 0;
	elset (inactor (i) > = 7033 marticles) kadiparità (il = 6; elsti (nartor li) > = 40 83 marticles) gradiparità (il = 4; gradiparità [il = 0; num + = wedin [il * gradeparità [il; gha = num /den;
	elset (inester [i] > = 7033 master[i](60) keodipoints [i] = 6; else (inester li] > = 40 83 master[i](50) gradipoints [i] = 4; olse oradipoints [i] = 0; num + = wedits [i] * gradepoints[i]; glapa = num /den; roid display ()
	elset (inester [i] > = 7033 master[i](60) keodipoints [i] = 6; else (inester li] > = 40 83 master[i](50) gradipoints [i] = 4; olse oradipoints [i] = 0; num + = wedits [i] * gradepoints[i]; glapa = num /den; roid display ()
	elset (inester (i] > = 7033 master[i](6) kadipants [i] = 6; else (inester li] > = 40 83 master[i](5) gradipants [i] = 4; olse gradipants [i] = 0; mum + = wedits [i] * gradepants[i]; gpa = num /den; soid display () susting out bisetts ("Student details");
	elset (inastes (i) > = 7033 master(i)(6) kadiparts [i] = 6; elset (master li) > = 40 83 master [i] < 50) gradiparts [i] = 4; gradiparts [i] = 0; mum + = medin [i] * gradeparts [i]; gpa = mim/den; spa = mim/den; system out position ("student detaik"); system out position ("name" "name + "lin" * "" 1280": +0"
	elset (inastes (i) = 7033 master[i](6) kadiparts [i] = 6; elstif (nastes li) = 40 83 master[i](5) gradiparts [i] = 4; gradiparts [i] = 4; gradiparts [i] = 4; gradiparts [i] + gradeparts [i]; gradiparts [i] + gradeparts [i]; gradiparts [i] + gradeparts [i]; gradin out printer ("student detaik"); gratin out printer ("name "thane + "lin"; gratin out printer ("name "thane + "lin"; gratin out printer ("name "thane + "lin";
	elset (inastes (i) > = 7033 mastes (i) (60) kadiparità [i] = 6; elsti (nastes li) > = 40 83 maste [i] < 50) gradiparità [i] = 4; gradiparità [i] = 4; gradiparità [i] = 4; gradiparità [i] + grade parità [i]; gradiparità [i] + grade parità [i]; gradim out printin ("student detaik"); gratim out printin ("nami "tuane + "lin"; gratim out printin ("nami "tuane + "lin"; gratim out printin ("nami "tuane + "lin";
	elset (inastes (i) > = 7033 mastes[i](6) kadipants [i] = 6; else (nastes li] > = 40 83 mastes [i] < 50) gradipants [i] = 4; olse open points [i] = 0; mum + = medin [i] + grade points [i]; gla = num /den; spa = num /den;
	elset (insules (i) = 7033 masks[i](6) kadipants [i] = 6; elset (nours li] > 40 83 masks [i] < 50) gradipants [i] = 4; olse gradipants [i] = 0; num + = wedin [i] + grade pants [i]; gra = num /den; spa =
	elset (inastes (i) = 7033 master[i](6) kadiparts [i] = 6; elstif (nastes li) = 40 83 master[i](5) gradiparts [i] = 4; gradiparts [i] = 4; gradiparts [i] = 4; gradiparts [i] + gradeparts [i]; gradiparts [i] + gradeparts [i]; gradiparts [i] + gradeparts [i]; gradin out printer ("student detaik"); gratin out printer ("name "thane + "lin"; gratin out printer ("name "thane + "lin"; gratin out printer ("name "thane + "lin";
	elset (inastes [i] > = 7033 master[i](0) kadipaints [i] = 6; else (inastes li]> = 40 83 master[i](5) gradipaints [i] = 4; olse gradipaints [i] = 0; minn + = wedits [i] * gradepoints[i]; gpa = nim/den; spa = nim/den;
	elset (inaster [i] > = 7033 master[i](6) Readspoints [i] = 6; else (master li] > = 40 83 master[i](5) gradipoints [i] = 4; olse gradipoints [i] = 0; mum + = wedin [i] * gradepoints[i]; gpa = num /den; spa = num /den; sp
	elset (insules (i) = 7033 masks [ik60] kadipants [i] = 6; elstif (nower li] > 40 83 masks [i] < 50) gradipants [i] = 4; olse gradipants [i] = 0; mum + = medin [i] * grade points [i]; gra = num /den; spa
	elset (insules (i) = 7033 masks [ik60] kadipants [i] = 6; elstif (nower li] > 40 83 masks [i] < 50) gradipants [i] = 4; olse gradipants [i] = 0; mum + = medin [i] * grade points [i]; gra = num /den; spa
	elset (inastes [i] = = +0 33 mastes[i] (i) kadipants [i] = 6; else if (mastes li] > +0 83 maste [i] < 50) gradipants [i] = 4; olse gradipants [i] = 0; minn + = medits [i] * gradepants[i]; gla = num /den; system out printly ("student detaik"); gram out printly ("name" "+name + "hi * " 1 = 0; i < " (nastes + grade") gram out printly (mastes + grade") gram out printly (mastes [i] + ") t " + grade" system out printly (mastes [i] + ") t " + grade" gram out printly ((((PA " + 29pa);) the master due
	elset (inastes (i] > = 7033 master[i](6) kadipoints [i] = 6; elset (master li] > = 40 83 master[i](5) gradipoints [i] = 4; olse gradipoints [i] = 0; mum + = medin [i] * gradepoints[i]; spa = mim/den; spa = mim/den

```
Administrator: C:\Windows\System32\cmd.exe - java stud
CH.
                                           4:Exit
                          3:Calculate
1:Input 2:Display
SGPA is= 5.466666666666667
1:Input 2:Display
                          3:Calculate
                                           4:Exit
Enter USN and name
1bm21cs007
aditya
Enter the number of subjects:
Enter credits of 2subjects:
Enter marks for the 2subjects:
66
77
                                           4:Exit
                          3:Calculate
1:Input 2:Display
3
SGPA is= 7.6
                          3:Calculate
                                           4:Exit
1:Input 2:Display
```

3) Create a class Book which contains four members: name, author, price, num_pages. Include a constructor to set the values for the members. Include methods to set and get the details of the objects. Include a toString() method that could display the complete details of the book. Develop a Java program to create n book objects.

P. (1855)
6.
6.
6.
6.
6.
6.
6.
6.
6.
8.
6.
2
2
2
2
0
0
0
0
0
2
2
2
2
2
.0
-
**
25.
-
1
-
18.
00.
HA.
7
-
₹ :न,
₹ :न,
*:7;
*:7;
*:7;
*:7;
₹ :न,
*:7;
*:7;
*:7;
*:7;
*:7;
*:7;
*:7;
*:7;
1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2

```
C:\Program Files\Java\jdhi.8.8_231\bin\javac Book.java
C:\Program Files\Java\jdhi.8.8_231\bin\javac booki
enter the name of the booki abc
enter the number of pages in the booki 2
enter the number of pages in the booki 2
enter the price of the booki 358

Book details
name: abc
author: ach
enter albert
name: abc
author: abc
new of pages: 2
price: 350.8

Book details
name: abc
number: albert
numb
```

4) Develop a Java program to create an abstract class named Shape that contains two integers and an empty method named printArea(). Provide three classes named Rectangle, Triangle and Circle such that each one of the classes extends the class Shape. Each one of the classes contain only the method printArea() that prints the area of the given shape.

100	
. In	(FASE NO.
9/12/11	
- A	penelop a Tour program to create an abstract clan
	named stape that contains 2 integers + an empty
	notice print Ala (). Provide 3 classes nemosal
	Professionale Triough Citals took the beart
	Pertugles Triangles Circle such that each one
	of the lams extends the clanshape facts one of
	the classes contain only the well of pinthea () that
	prints the area of the given those
	(14.4 Anal September 1
	import java witt. *;
5-0/(t)	abitiact can shape ?
	public rint x, y; s de de 1
	public abstract word print Mea();
_	L parade doisace visia printinsees
_	
	clar Rectingle extends lape ()
	public visid printasea 0 ?
E (1	goat area;
10.1	0.10 = ×+y;
1000	System out println (" Area & Rectarght: "+0000);
1500	1 Charles to the control of the cont
	(Taxourist)
-	Chy Tto of otted flore!
	Class Triangle extends Prope &
	public void print this () &
	that ala;
	assa = (xxx) + D6;
100	System out Printen (" Kora & Trianghis"+ area);
	y grant int punto.
7	
-	\$
	Clar Carl extends Shape?
	public void printAcea()?
	that asea;
	alea = (5-14*x+x);
	System out-println ("Mea & Circle is" + circle);
	is for the second of the secon
-	15
200	(motion - Z
	(MOC NO)
	Can Main !
	Can Main !
	Class Main ! Public static void main (string [7 asgs)! Put there:
	Class Main ! Public static void main (string [7 asgs)! Put there:
- 100 - 100 - 100 - 100	Class Main ! public static void main (string [7 asgs)! Int choic; Cames (C = new Couner (system in);
- 100 - 100	Class Main ! public static rood main (string [1059x)] Int choice; Scanner (= new (counter [explem in).
- 40 - 40 - 40 - 40 - 6	Class Main ! public static rood main (string [1059x)] Int choice; Scanner (= new (counter [explem in).
- 103 - 103 - 03 - 03 - 04	Class Main ! public static rood main (string [1059x)] Int choice; Scanner (= new (counter [explem in).
- (1) - (1) - (1) - (1) - (1) - (1)	Class Main ! public static void main (string [7 asgs)! Int choic; Cames (C = new Couner (system in);
100 (100 (100 (100 (100 (100 (100 (100	Class Main ! public static void noin (string [7089s]! Put Choics; ! canner ! (= new !conner ! system in); system out printla ("sure in 1. ska ? Pecturgh !n Lystem out printla ("sure in 1. ska ? Skorf lister"); Lystem out printla (" state your choice:"); Choice ! c. next Int ();
100 100 100 100 100 100 100 100 100 100	Class Main ! Public static void noin (string [7059)! Pat Chorice; Stander (C = new Sounder (system in); System out printle ("New In 1- Also of Rectargle In 2 Moon & Transph In Som & Chorice In Lystem out println (" latter your chorice "); Chorice Sc. vest Int (); suitch (Chorice):
100 -	Class Main ! Public static void noin (string [7059)! Put choice; Stamper (c = new Scanner (system in); System out printla ("New In 1- Asia & Rectaugh In 2 Mea & Trangh In Smargh in the ""); System out printla (" latin your choice:"); Choice so next Int (); switch (choice)! (ax 1: System, out prestle !" (uto hight broke:");
1/3 () - () - ()	Class Main ! public static with main (string [7059x)! Put choice; Canner (c = new Councer system in). System out printle ("sinu in 1 - seco of lecturge in 2 - Mea & Brage in Second inch ") Lystem out printle (" later your choice:"); Choice & c. next Int (); switch (choice); (ax 1: System out pradle (" later high 1 broke:"), Leartragh 1 & = new Pecturge (();
1100	Class Main ! public static word main (string [7059)! Put Choice; Canner (C = new Scanner system in); system out prints ("usin !n !n sea & fectuage !n 2 Mea & Triangh !n & Mea & fished!") System out prints (" letter your choice:"); Choice & next Int (); kuitch (choice)! (ax !: system out practle !"(luta leght broke:"); Rantough! & = new Pectuage! ((); h 2 = 16 next Int ();
110 (100 (100 (100 (100 (100 (100 (100	Class Main ! Public static void noin (string [7059s]! Put choice; Scanner (c = new Scanner [system in); System out photos (" " " wine In I - Aria of Pectings In System out photos (" " surve In I - Briangh In 3- Aria filical") Lystem out photos (" lutter your choice:"); Choice so next fact (" Surve Los Los (" "); Insitch (choice)! Cax!: System out postly (" Sura bught budh:") Reartaugh! A = new Pectangy! ((); h. 2 = 16 next fact (); h. y = 16 next fact ();
1103	Class Main ! public static word main (string [7059)! Put Choice; Canner (C = new Scanner system in); system out prints ("usin !n !n sea & fectuage !n 2 Mea & Triangh !n & Mea & fished!") System out prints (" letter your choice:"); Choice & next Int (); kuitch (choice)! (ax !: system out practle !"(luta leght broke:"); Rantough! & = new Pectuage! ((); h 2 = 16 next Int ();
11 12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Class Main ! public static word main (string [1059)! Put Choice; Canner (C = new Councer system in); System out printle ("neme in 1. sea & feetings in 2 Mea & Triangh in 5 Mea & tisch") System out printle ("letter your choice."); Choice & next Int (); kuitch (choice)! (ax System out printle "letter hight bridge."); Reactings 1 = new Pectangs ((); h. 2 = 1 next Int (); h. printle (); beak;
100	Class Main ! public static word main (string [1059)! Put Choice; Canner (C = new Councer system in); System out printle ("neme in 1. sea & feetings in 2 Mea & Triangh in 5 Mea & tisch") System out printle ("letter your choice."); Choice & next Int (); kuitch (choice)! (ax System out printle "letter hight bridge."); Reactings 1 = new Pectangs ((); h. 2 = 1 next Int (); h. printle (); beak;
1155	Cass Main ! Public static void noin (string [7089s]! Put choice; ! canner ! (= new !canner ! system in); "getter out : protter ("sum in 1 - ska of !sectings !n "getter out : protter ("suts your choice:"); Choice ! se next !no! (" luta begit ! broth: "); kuitch (choice)! (ax!: system out protter (" luta begit ! broth: "); Louragh!! ! = new Pectange!!(); h. 2 = 18. next !no!(); h. y =
100	Class Main ! Public static void noin (string [7089s]! Put choics; Scanner (c = new Scanner (system in); System out protests ("sure in 1 = 1860 of feelings in System out protests ("sure in 1 = 1860 of feelings in System out protests ("sure in 10; Choice so next into; suitch (choice)! Cax!: System out protests ("sure bught bught."); Reartaugh 1 & = new Pectangs (1); h. y = 10 - 18 = 1
100	Class Main ! public static wild main (string [10592)! Put choice; Scanner (c = new scanner system in). System out printla ("nine in 1 - area of lecturgh in 2 - Mea of Brage in Seas of tack") System out printla (" later your cloore:"); Choice sc next Int (); switch (croice)! (ax! system out pratte ("suta bught bught"), Reatragh! h = new Pecturgh! (); h ~ 2 - k next but(); h - y = k next but(); h - y = k next but(); h - printlace (); back: (ax2: system out printla ("sata bught heigh"); Talangle t = new Triangle ();
103	Cass Main ! Public static word noin (string [7089s]! Put choics; Canner (C = new Councer [system in); System out printle ("Ninu In 1. Aka & Pectings In System out printle ("Ninu In 1. Aka & Pectings In Lystem out printle ("Suter your choice:"); Choice so next Int (); Switch (Croice)! (ax1: system out printle ("Suter begits bads:"); Restrugt 1 & = new Pectings ((); h. 2 = K. next Int (); h. y = K. next Int (); break; (ax2: system out printle ("Inter brook I beight"); Talangle t = new Triangle (); L = K. next Int ();
(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	Class Main ! Public static word main (string [7089s]! Put choics; Scanner (c = new Scanner [system in); System and printle ("surve in 1 = Asia & Pectings in System and printle ("surve in 1 = Asia & Pectings in System and printle ("surve your choics:"); Choice so next fat (); switch (croice)! (ax1: system and printle ("surve begitst bands:"); Reactings 1 & = new Pectings ((); h. 2 = K-next fat (); break; (ax2: system and printle ("surve begitst beight"); Talangle t = new Triangle (); + x = K-next fat (); h. y = sc. next fat (); h. p. sc. next fat (); h. p. sc. next fat ();
(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	Class Main ! public static wild main (string [1059])! Put choice; Canner (c = new Councer system in). System out printle ("since In - area of Lecturgh In 2 Mea of Brangh In Shoon final") Lystem out printle ("later your choice:"). Choice sc next Int (). switch (choice)! (ax !: system out prattle ("later hight broke."), Leartrigh! h = new Pecturgh! ((); h 2 = 1 next hat (); h y = 1 next hat (); broat sat printle ("Inter heart sheight"); Talangle t = new Triangle (); L = 1 next hat (); h = 1 next hat (); L = 1 next hat (); h = 1 next hat ();
103	Cass Main ! public Attic word main (thing [70592)! Int choice; Canner (C = new Councer system in); System out printle ("unin in 1 - Area & Rectangle In 2 Mea & Triangle in 3 - Rea & (inch"); Choice & next Int (); kuitch (choice)! (ax ! : system, out prouth ("luter hight bridge"); Keartragh! 1 = - new Pactangle (); h 2 = 1 next hat (); h 3 = 1 next hat (); h 4 = 1 next hat (); h 5 = 1 next hat (); h 6 = 1 next hat (); h 7 = 1 next hat (); h 8 = 1 next hat (); h 9 = 1 next hat (); h 9 = 1 next hat (); h 1
(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	Cass Main ! public Attic word main (thing [70592)! Int choice; Canner (C = new Councer system in); System out printle ("unin in 1 - Area & Rectangle In 2 Mea & Triangle in 3 - Rea & (inch"); Choice & next Int (); kuitch (choice)! (ax ! : system, out prouth ("luter hight bridge"); Keartragh! 1 = - new Pactangle (); h 2 = 1 next hat (); h 3 = 1 next hat (); h 4 = 1 next hat (); h 5 = 1 next hat (); h 6 = 1 next hat (); h 7 = 1 next hat (); h 8 = 1 next hat (); h 9 = 1 next hat (); h 9 = 1 next hat (); h 1
(atc)	Class Main ! public static rood main (string [1059x]! Int choice; Scanner & E new Councer [system in). System out printle (" wine in 1 - Asia & Rectargh in 2 - Mea & Breaturgh in 3 - Lystem out printle (" later your choice"). Choice & next int (). Senitch (choice)! Lanitch (choice)! A 2 - 2 - Meart int (). A 2 - 2 - Meart int (). A 3 - 2 - Meart int (). A 3 - Meart int (). A 4 - Meart int (). Talangh ! = Mea Triangh (); L 2 - Meart int (). L 2 - Meart int (). L 3 - Meart int (). L 4 - Meart int (). L 4 - Meart int (). L 5 - Meart int (). L 6 - Meart int (). (Can 3: System out printle (" later society in 2); (Can 3: System out printle (" later society in 3); (Can 3: System out printle (" later society in 3); (Can 3: System out printle (" later society in 3); (Can 3: System out printle (" later society in 4);
100	Class Main ! public static rood main (string [1059x]! Int choice; Scanner & E new Councer [system in). System out printle (" wine in 1 - Asia & Rectargh in 2 - Mea & Breaturgh in 3 - Lystem out printle (" later your choice"). Choice & next int (). Senitch (choice)! Lanitch (choice)! A 2 - 2 - Meart int (). A 2 - 2 - Meart int (). A 3 - 2 - Meart int (). A 3 - Meart int (). A 4 - Meart int (). Talangh ! = Mea Triangh (); L 2 - Meart int (). L 2 - Meart int (). L 3 - Meart int (). L 4 - Meart int (). L 4 - Meart int (). L 5 - Meart int (). L 6 - Meart int (). (Can 3: System out printle (" later society in 2); (Can 3: System out printle (" later society in 3); (Can 3: System out printle (" later society in 3); (Can 3: System out printle (" later society in 3); (Can 3: System out printle (" later society in 4);
(62.7	Class Main ! public Attic word main (thing [1059]) Put choice; learner (c = new learner system in). System out printle ("nine in 1 - Area of Rectarge in 2 - Mea of Brage in Second ("all") Lystem out printle (" later your clooke:"). Choice so next Int (). switch (croice)! (ax!: system out printle ("later high! broke:"). Reatragh! & = new Pectargh! (); h. y = 1 - next Int (); h. y = 1 - next Int (); h. y = 1 - next Int (); Lystem out printle ("Inter broke I bright"); Talangle t = new Triangle (); t y = 1 - next Int (); h y = 1 - next Int (); h y = 1 - next Int (); (ax3: System out printle ("later sodies:"); (lace c = new Chile (); C > 2 - St. next Int (); C - Print Alea ();
100	Class Main ! public static word main (string [1059)! Int choice; ! canner ! (= new !conner! system in); system out printle ("surve !n != sea of !cellingse !n 2 Mea of Triangse !n & Mea of !cellingse !n 2 Mea of Triangse !n & Mea of !cellingse !n ! system out printle (" lutter your choice."); (choice !c next !nt (); ! suitch (choice !)! (ax ! system out printle !" ("luter legit ! bed!e."); ! santagle! !n = new Pactagle! (!); h ? = seart !nt (); h printle (); heart; (ax 2: lystem out printle (" !nter brooks !leigh"); Triangle !t = new Triangle (); h ? se next !nt (); h printle (); beach; (ax 8: system out printle (" !nter brooks !leigh"); (ax 8: system out printle (" !nter brooks !leigh"); (ax 8: system out printle (" !nter brooks !leigh"); (ax 9: next !nt (); C 2 St. next !nt () C 2 Printle (); brook; brook; brook;
1000	Class Main ! public Attic word main (thing [1059]) Put choice; learner (c = new learner system in). System out printle ("nine in 1 - Area of Rectarge in 2 - Mea of Brage in Second ("all") Lystem out printle (" later your clooke:"). Choice so next Int (). switch (croice)! (ax!: system out printle ("later high! broke:"). Reatragh! & = new Pectargh! (); h. y = 1 - next Int (); h. y = 1 - next Int (); h. y = 1 - next Int (); Lystem out printle ("Inter broke I bright"); Talangle t = new Triangle (); t y = 1 - next Int (); h y = 1 - next Int (); h y = 1 - next Int (); (ax3: System out printle ("later sodies:"); (lace c = new Chile (); C > 2 - St. next Int (); C - Print Alea ();
(682)	Class Main ! public static word main (string [1059)! Int choice; ! canner ! (= new !conner! system in); system out printle ("surve !n != sea of !cellingse !n 2 Mea of Triangse !n & Mea of !cellingse !n 2 Mea of Triangse !n & Mea of !cellingse !n ! system out printle (" lutter your choice."); (choice !c next !nt (); ! suitch (choice !)! (ax ! system out printle !" ("luter legit ! bed!e."); ! santagle! !n = new Pactagle! (!); h ? = seart !nt (); h printle (); heart; (ax 2: lystem out printle (" !nter brooks !leigh"); Triangle !t = new Triangle (); h ? se next !nt (); h printle (); beach; (ax 8: system out printle (" !nter brooks !leigh"); (ax 8: system out printle (" !nter brooks !leigh"); (ax 8: system out printle (" !nter brooks !leigh"); (ax 9: next !nt (); C 2 St. next !nt () C 2 Printle (); brook; brook; brook;
100	Class Main ! public Attic word main (thing [1059])! Int choice; Ceanus (C = new Counce system in). System out printed ("unin in - area of Rectarge in 2 Mea of Triangle in - Area of Rectarge in Choice & next Int(); switch (choice)! (ax! : system out printle ("luta hight broke."); Reattagh! 1 = new Rectarge! (1); h. 2 = next Int(); h. y = next Int(); h. printedeca (); break; (ax2: system out printle ("Into broke theight"); Triangle t = new Triangle (); t = x = next Int(); h. y = next Int(); h. y = next Int(); (ax3: system out printle ("Into broke theight"); (ax4: system out printle ("Into broke theight"); break; (ax5: system out printle ("Into broke theight"); break; (ax6: system out printle ("Into broke theight");
(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	Class Main ! public static word main (string [1059)! Int choice; ! canner ! (= new !conner! system in); system out printle ("surve !n != sea of !cellingse !n 2 Mea of Triangse !n & Mea of !cellingse !n 2 Mea of Triangse !n & Mea of !cellingse !n ! system out printle (" lutter your choice."); (choice !c next !nt (); ! suitch (choice !)! (ax ! system out printle !" ("luter legit ! bed!e."); ! santagle! !n = new Pactagle! (!); h ? = seart !nt (); h printle (); heart; (ax 2: lystem out printle (" !nter brooks !leigh"); Triangle !t = new Triangle (); h ? se next !nt (); h printle (); beach; (ax 8: system out printle (" !nter brooks !leigh"); (ax 8: system out printle (" !nter brooks !leigh"); (ax 8: system out printle (" !nter brooks !leigh"); (ax 9: next !nt (); C 2 St. next !nt () C 2 Printle (); brook; brook; brook;
(68.4)	Class Main ! public Attic word main (thing [1059])! Int choice; Ceanus (C = new Counce system in). System out printed ("unin in - area of Rectarge in 2 Mea of Triangle in - Area of Rectarge in Choice & next Int(); switch (choice)! (ax! : system out printle ("luta hight broke."); Reattagh! 1 = new Rectarge! (1); h. 2 = next Int(); h. y = next Int(); h. printedeca (); break; (ax2: system out printle ("Into broke theight"); Triangle t = new Triangle (); t = x = next Int(); h. y = next Int(); h. y = next Int(); (ax3: system out printle ("Into broke theight"); (ax4: system out printle ("Into broke theight"); break; (ax5: system out printle ("Into broke theight"); break; (ax6: system out printle ("Into broke theight");
100 (6 (100 (100 (100 (100 (100 (100 (10	Class Main ! public Attic word main (thing [1059])! Int choice; Ceanus (C = new Counce system in). System out printed ("unin in - area of Rectarge in 2 Mea of Triangle in - Area of Rectarge in Choice & next Int(); switch (choice)! (ax! : system out printle ("luta hight broke."); Reattagh! 1 = new Rectarge! (1); h. 2 = next Int(); h. y = next Int(); h. printedeca (); break; (ax2: system out printle ("Into broke theight"); Triangle t = new Triangle (); t = x = next Int(); h. y = next Int(); h. y = next Int(); (ax3: system out printle ("Into broke theight"); (ax4: system out printle ("Into broke theight"); break; (ax5: system out printle ("Into broke theight"); break; (ax6: system out printle ("Into broke theight");
(100.00)	Class Main ! public Attic word main (thing [1059])! Int choice; Ceanus (C = new Counce system in). System out printed ("unin in - area of Rectarge in 2 Mea of Triangle in - Area of Rectarge in Choice & next Int(); switch (choice)! (ax! : system out printle ("luta hight broke."); Reattagh! 1 = new Rectarge! (1); h. 2 = next Int(); h. y = next Int(); h. printedeca (); break; (ax2: system out printle ("Into broke theight"); Triangle t = new Triangle (); t = x = next Int(); h. y = next Int(); h. y = next Int(); (ax3: system out printle ("Into broke theight"); (ax4: system out printle ("Into broke theight"); break; (ax5: system out printle ("Into broke theight"); break; (ax6: system out printle ("Into broke theight");
(682)	Class Main ! public Attic word main (thing [1059])! Int choice; Ceanus (C = new Counce system in). System out printed ("unin in - area of Rectarge in 2 Mea of Triangle in - Area of Rectarge in Choice & next Int(); switch (choice)! (ax! : system out printle ("luta hight broke."); Reattagh! 1 = new Rectarge! (1); h. 2 = next Int(); h. y = next Int(); h. printedeca (); break; (ax2: system out printle ("Into broke theight"); Triangle t = new Triangle (); t = x = next Int(); h. y = next Int(); h. y = next Int(); (ax3: system out printle ("Into broke theight"); (ax4: system out printle ("Into broke theight"); break; (ax5: system out printle ("Into broke theight"); break; (ax6: system out printle ("Into broke theight");

```
Administrator: C:\Windows\System32\cmu.exe
 C:\Program Files\Java\jdk1.8.8_231\bin>javac shape.java
 C:\Program Files\Java\jdk1.8.0_231\bin>java Main
Menu

1.Area of Rectangle

2.Area of Traingle

3.Area of Circle
Enter your choice: 1
Enter length and breadth for area of rectangle:
1 2
Area of Rectangle is 2.0
C:\Program Files\Java\jdk1.8.0_231\bin\java Main
Menu
1.Area of Rectangle
2.Area of Iraingle
3.Area of Circle
Enter your choice: 2
Enter bredth and height for area of traingle:
2 4
Area of Iriangle is 4.0
C:\Program Files\Java\jdk1.8.0_231\bin>3
'3' is not recognized as an internal or external command,
operable program or batch file.
C:\Program Files\Java\jdk1.8.0_231\bin\java Main
Menu
1.Area of Rectangle
2.Area of Iraingle
3.Area of Circle
Enter your choice : 3
Enter radius for area of circle :
 Area of Circle is 50.285713
C:\Program Files\Java\jdk1.8.0_231\bin>_
```

- 5) Develop a Java program to create a class Bank that maintains two kinds of account for its customers, one called savings account and the other current account. The savings account provides compound interest and withdrawal facilities but no cheque book facility. The current account provides cheque book facility but no interest. Current account holders should also maintain a minimum balance and if the balance falls below this level, a service charge is imposed. Create a class Account that stores customer name, account number and type of account. From this derive the classes Cur-acct and Sav-acct to make them more specific to their requirements. Include the necessary methods in order to achieve the following tasks:
- a) Accept deposit from customer and update the balance.
- b) Display the balance.
- c) Compute and deposit interest
- d) Permit withdrawal and update the balance

Check for the minimum balance, impose penalty if necessary and update the balance.

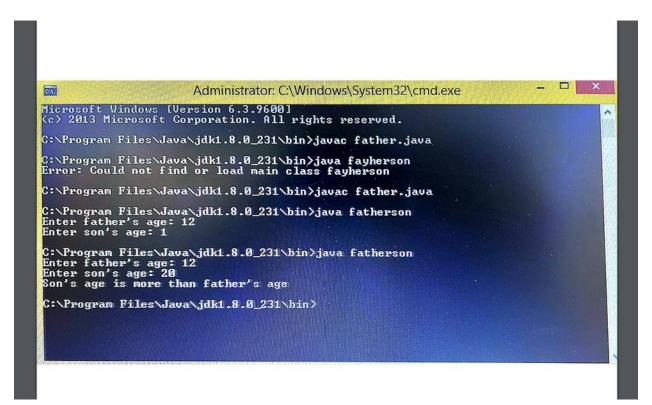
Develop a Tour program to clean a clan Bout flot mointains has tody occount for to customers, one called lawings account 5the other wasset account the savings account provides compand interest quite drawal tacilities but no cheque book facility. Ku cussent account provides cheque book Hickling but no items Current account holder should belo nativities a min balance fif the balance falls below this kned, a known Charge Is imposed Create a classificant that stones weather name. account remoter & type of account. From this desire the Marks lur-acet & sav-acet to note them note perfic to their regionalists believe the totoming travery methods in order to actions the following travery a) Accept deposits from whenever suppose balance b) Dippy the balance C) compute & deposite interest d) Permit withousawal & update the balance Check for the minimum balance, impor pushly if necessary supolate the balance. import Java-utit. import java lange Class Arcount public bing acchane; public String acc-no, public int acc-type: public double balance; public void guidate (string name, double no, in type, (lat Aduato

acc-name = name; acc-no=no; acc tope=type; balance=bal; Class Savings extends Account public vaid deposit (deposit aint)! balana = balana + anit; System out printly (balance) 1 public void withhaw (dobs aut)? balance = balance-auti lejsten out printly (wit balance); 5 Bublic wid lutrest (intrine. int no) ? doubkints = balance > (1+6/10); But 1 = Meeter pow (But 4 , (Huetno)); System out printer (" Fulliest is "+int); balona = leabone tints; System out printly (" New balance :"); "} Class Current extends Account & public void diposits (double ant)! balana = balana + ant; Eyetun out printly (balance); 4 Proble void withdraw (doublant) ? balana = lealance-ant; S.O.P(balance); auck (babuce); Public word (heck (doubt aunt) it (aut < 10000) { balana = balana - 500 S.O. P(" "mufficient" + balance)

	(FACE NO.)
	Class Main &
-	public Matic wid man (String args 13) }
	Ranner & = new scanner (ystem in);
-	fut ktup = 1;
	while (trip == 1)
-	The standard divi
_	double aut=0;
_	(O.P("Suter name");
_	SC wxt();
-	Sting name = SC- mething Us
	3.0.6(" futer acc- no");
	double no = 1c. nextpouble()
	1. O. P(" Enta Occ - type of m for savings
	Pur tube = sc nextfut ();
phil (April)	dis
8	1
	S.O.P (" Puter balance?)
	ant = sc next Double (); 1
	while (Type == 1.34 ant=10000);
	of (type == 0)
_	
	Savings &- new Savings ();
	3. getdata (name, no, lyte, aut);
2	5. getolita (name, no, lyte, ant); 10. P(" In 1. Deposit Jon 2. Withdraw m. 5 Sutered");
	int temp 3 = 30 next Intly
	if (tups = 1) {
	5. O.P(" (ute Amant);
19.	double ant 1 = Sc. next Double ();
_	5 deposit (aut 1)
	1
_	
	(most wo)
1	Gover.
7	elxit(Timps = 2) }
7	elx(it(timps = 2) }
1	elx(f(timps=2) } 5.0.P("Suter Armt"); double aunt1=sc next Double();
7	elx(it(timps = 2) }
7.	elxit(timps=2) } S.O.P("Suter Armt"); double aunt = sc next Double (); 1 withdraw launt);
<i>y</i> .	elx (f(timps = 2) } So.P("Subs Ant"); double ant 1 = sc next Double (3: 1 mithdraw lamt 1); lex of (timp 5 = 3) }
7	elx (f (temps = 2) } 5.0.P("Subs Amt"); double amt 1 = sc next Double (3: 1 mithdraw (amt 1); lx of (temps = 3) } 8.0.P("Substance");
7	elx (f(timps = 2) } So. P("Subs Ant"); clouble ant 1 = sc next Double (); I withdraw lamt 1); lix if (timp 5 = 3) } 8.0. P("Subs time"); int to = sc next int ();
1	elx (f (temps = 2) } S.O.P("Subs Ant"); double ant 1 = sc next Double (3: 1 mithdraw lamt 1); lex of (temps = 3) } 8.O.P(" Substance"); Substance ("); Substance ("); Substance ("); Substance (");
7	elx (f (temps = 2) } 5.0.P("Suter Ant"); double ant 1 = sc next Double (3: 1 mithdraw (ant 1); 1 elx of (temps = 3) } 8.0.P(" (uter tene"); int tp = sc next sut(); 5.0.P("Suter no of tenes"); int not = resuscenext sut();
	elx (f (temps = 2) } So P ("Suter Ant"); double ant 1 = sc next Double (); I withdraw (ant 1); lex of (temps = 3) } So P (" (uter teme"); So P (" (uter teme"); So P (" Suter no of temes"); So P ("Suter no of temes");
	elx (f (temps = 2) } So P ("Suter Ant"); double ant 1 = sc next Double (3: S withdraw (ant 1); lex of (temps = 3) } So P ("Suter time"); Sut tp = sc next sut (); So P ("Suter no of times"); Sut not = resuccent that (); S netwest (+p, not); S netwest (+p, not);
	elx (f(timps = 2) } So. P(" luter Ant"); clouble ant 1 = sc. next Double (); I mitted an lamt 1); lex (f (timp 5 = 3) } 8.0. P(" luter time"); int tp = sc. next sut (); 5.0. P(" luter no of times"); int not = uter sc. next but (); 5. not not = uter sc. next but (); 5. Interest (tp. not); like it (tube = = 1) }
	elx (f(timps = 2) } So P(" luty Ant"); double ant 1 = sc next Double (); I mittake lant! lex (f (timp 5 = 3) } So P(" luty time"); int tp = sc next int (); so P(" luty no of times"); int not = next int (); so P(" luty no of times"); int not = next int (); so P(" luty no of times"); luty in the se (tp. not); luty if (type = = 1) } current (= new current ();
	elx (f(timps = 2) } So P("Subs Ant"); double ant 1 = sc next Double (); I mithdraw lamt! Elx (f (timp 5 = 3) } So P("Substitute"); int tp = sc next sut (); so P("Sutu no of times"); int not = next sut (); So p("Sutu no of times"); int not = next sut (); So p("Sutu no of times"); int not = next suc next but (); So p("Sutu no of times"); Else if (type = = 1) } Current &= new (weent(); Cogetdata (name, no, type, ant);
	elx (f(timps = 2) ? S.O. P("luty Ant"); clouble ant 1 = sc next Double (); 1 in the se land 1); 1 s.O. P(" luty time"); int tp = sc next int (); 1.O. P(" luty no of times"); int not = new conext int (); 5. Interest (tp. not); 9 lie if (type ==1) ? (current d= new conext (); c. getdata (name, no, type, ant); 5.O. P(" In 1) poposite in 2. Willows; 5.O. P(" In 1) poposite in 2. Willows; S.O.
	elx (f (timps = 2) ? S.O. P ("luty Annt"); double aut 1 = sc. next Double (); 1 in the sc. next sure"); S.O. P (" luty time"); int tp = sc. next sure (); S.O. P (" luty no of times"); int not = news conext hut (); ("Interse (tp = not)); ? It (type ==1) ? (urrent d = new current(); C. geldata (name, no, type, aut); S.O. P ("In 1 Deposite th 2 with draws). Int tany 5 = sc. next but ();
	elx (f (temps = 2) ? So P ("Suter Annt"); double aunt = sc next Double (); I withdraw launt) lex (f (temp 5 = 3) ? ever (" Suter time"); int tp = sc next int (); so p (" Suter no of times"); int not = news (next int (); so p (" Suter no of times"); snt not = news (next int (); snt not = news (next int (); snt not = news (next int (); so perdate (new expect (); coperdate (new expect int (); so perdate (); so p
	elx (f (timps = 2) ? S.O. P ("luty Annt"); clouble aunt = sc. next Double (); 1
	elx (f (timps = 2) ? So P ("Suter Annt"); clouble aunt = sc next Double (); I withdraw lamb! Elx (f (timp 5 = 3) ? So P (" Suter time"); Sut tp = sc next sut (); So P ("Suter no st times"); Sut not = news (next sut (); Sut not = news (next sut (); Sut timps = 1) ? Current (= new (no stype, aunt); So P ("In 1 posite to 2 withdraw"); Int tanp 5 = sc next sut (); Could to (new no stype, aunt); So P ("Sute amount"); Could aunt (= sc next Double ();
	elx (f (timps = 2) ? S.O. P ("luty Annt"); clouble aunt = sc. next Double (); 1
	elx (f (timps = 2) ? So P ("luty Ant"); double ant = sc next Double (); 1 in the sc next sure"); int tp= sc next sure(); 1 o p ("luty no of times"); int not = next no ext hut (); ("Interst (tp= not)); ? Interst (tp= not); ? It (type ==1) ? (urrent = new anent(); C get ata (name, no, type, ant); So P ("In 1 Deposite the 2 with draws"); Int tay 5 = sc next but (); I temp 3 ==)? 8.0 P ("Sutu amont"); double ant 1 = sc next Double (); C deposite (ant);
	elx (f (temps = 2) ? S.O. P (" luter Annt"); double aunt 1 = sc next Double (); I withdraw lamt 1); lex of (temp 5 = 3) ? S.O. P (" luter tome"); But tp = sc next sut (); S.O. P (" luter no of times"); Int not = news (next but (); I rutherst (tp, not); 3 !; else if (tepe ==1)? current d = new current(); c. getdata (name, no, type, aunt); S.O. P (" In I pepoite the 2 withdraws); Int temp 5 = sc next but (); if (temp 5 == 1)? S.O. P (" Sute amount"); double aunt 1 = sc next Double (); C. deposit (aunt 1); 1
	elx if (temps = 2) ? S.O. P("Suter Ant"); double aunt 1 = sc next Double (); I withdraw lamt 1); lex if (temp 5 = 3) ? S.O. P(" (uter tome"); S.O. P(" Suter no of times"); S.O. P("Suter no of times"); S.O. P("Suter no of times"); S.O. P("Suter no of times"); Current d= new current(); C. geldata (name, no, type, aunt); S.O. P("In I pepoite the 2 withdraws); Int temp 5 = so next but (); It temp 5 = so next but (); S.O. P("Suter amount"); double aunt 1 = sc next Double (); C. deposit (aunt 1); Use if (temp 5 = 2) ? 8.O. P("Suter amount");
	elx if (temps = 2) ? So P ("luter Amt"); double aunt 1 = sc next Double (); I withdraw lamt 1); lex if (temp 5 = 3) ? So P (" luter tome"); int tp = sc next sut (); So P ("luter no of times"); int not = news (next fut (); I interest (po not); ? interest (po not); ? interest (= new (nexut ()); C get data (name, no, type, aunt); So P ("In 1 peposite in 2 withdraw"); Int temp 5 = se next but (); It temp 5 = se next but (); (c duposit (aunt 1); double aunt 1 = sc next Double (); C double aunt 1 = sc next Double (); (double aunt 1 = sc next Double (); double aunt 1 = sc next Double ();
	elx if (temps = 2) ? S.O. P("Suter Ant"); double aunt 1 = sc next Double (); I withdraw lamt 1); lex if (temp 5 = 3) ? S.O. P(" (uter tome"); S.O. P(" Suter no of times"); S.O. P("Suter no of times"); S.O. P("Suter no of times"); S.O. P("Suter no of times"); Current d= new current(); C. geldata (name, no, type, aunt); S.O. P("In I pepoite the 2 withdraws); Int temp 5 = so next but (); It temp 5 = so next but (); S.O. P("Suter amount"); double aunt 1 = sc next Double (); C. deposit (aunt 1); Use if (temp 5 = 2) ? 8.O. P("Suter amount");
	elx (f (timps = 2) ? S.O. P (" luter Annt"); double ant 1 = sc next Double (); 1 mittude as land 1); lex of (timp 5 = 3) ? 8.O. P (" lute time"); int tp= sc next int (); 1.O. P (" lute no of times"); int not = new conext lut (); (" Interest (tp= not)); ?! Else if (timp = = 1) ? (urrent d= new conext (); C. get data (name, no, type, and); S.O. P (" lute amount"); double ant 1 = sc next Double (); C. deposit (ant); double ant 1 = sc next Double (); C. deposit (ant); double ant 1 = sc next Double (); C. mitturp 5 = 2) ? 8.O. P (" lute amount"); double ant 1 = sc next Double (); C. deposit (ant 1);
	elx if (temps = 2) } So P("Suter Ant"); double ant 1 = sc next Double (); I withdraw lamt 1); lex if (temps = 3) i 8 o P(" Suter tome"); Sut tp = sc next sut (); So P("Suter no if times"); Sut not = resuccent that (); S' suterst (+po not); S' suterst (+po not); S' suterst (+po not); So P("In 1 Deposite the 2 withdraws"); Int tay 5 = sc next sut 0; It temps == 1) i 8 o P("Suter amount"); double aut 1 = sc next Double (); C' deposit (aut 1); Ux if (temps = 2) } 8 o P("Suter amount"); double aut 1 = sc next Double (); C' double aut 1 = sc next Double (); C' inter amount"); double aut 1 = sc next Double (); C' inter amount");
	elx if (temps = 2) } So P("luter Amt"); double aunt 1 = sc next Double (); I withdraw lamt 1); lex if (temp 5 = 3) i 8 o P(" luter tene"); int tp = sc next sut (); 5 o P("luter no of tenes"); int not = ress c next but (); I interest (tpo not); I' interest (tpo not); I' current d = new current(); C geldata (name, no, type, aunt); So P("In 1 Deposite to 2 withdraw); Int temp 5 = sc next but (); It temp 5 = sc next but (); C deposit (aunt 1); double aunt 1 = sc next Double (); C double aunt 1 = sc next Double (); C mithdraw (aunt 1); double aunt 1 = sc next Double (); C mithdraw (aunt 1);

7) Write a program that demonstrates handling of exceptions in inheritance tree. Create a base class called "Father" and derived class called "Son" which extends the base class. In Father class, implement a constructor which takes the age and throws the exception WrongAge() when the input age<0. In Son class, implement a constructor that cases both father and son's age and throws an exception if son's age is >=father's age.

	Mol no
0	crait a program that demoistrates harding a creptions in substitute the Great about clark called Father. Alexand clark of the craft has been clark about the control of the
	clan called Father & defined clan for class which extends the base class for patter class buffered to be buffer
-	in the set a south the while to be to
	and thrown the exception loroughge O well the input age < 0.
	Soupest Jua-uti-+;
	Class gatherage extends Exception ?
-	Public string to thing () } solum (" falter "! age is less then o")
	19
	class sarage exception extends Exception ?
	sonage Exception (Entage)?
	public String to String () &
	ely beliater ("Son's age & kis than 0"
	relian ("Bon") age 11 moulton jather
	class byther ;
-	Dublic (Loon I.
	/ Conver > = Value Xamor (1111) = 2
	tomer) = New Yanner (system. in);
	/ Conver > = Value Xamor (1111) = 2
	(Manco) = Nam Hanner (Hyster in); hour (); hysten cat Pisadh («Cutiq Jatter age age) = & nort 2, 2()
	from) = raw same (hyster-in); from out production (cluster gatter age get) = Senent but ().
	get = 5. next buil(): (get = 5. next buil(). (get = 5. next buil(). (get = 6. next buil().
	(Almos) - raw Kanner (Hyrkar-in); frium out prindin ("Centry futter age get) = Schert Int(): [old exi() Reconsy fortice Age Exception (); Italian was father Age Exception ();
	James > - raw Kanner (hyphanin); getus out Prindly ("chita patter age get) = 5. next Int(). Lord ex10 bloomy fritally Ecception (); if (age) = 0) there was father type Ecception (); y (last four Chinals bottom;
	James > - van Kanner (hyster-in); ghu (); fytur out productive patter age get = 5. next but (). Joid ex () Recome forten Age Exception; if (age = 0) traco naw fatter Age Exception (); y Class son Cities as patter i public ext age z; son ()?
	Taken > - Name (hyphanin); from (); from out production of get = 5 - next but (). [old exil) bloomy frither Age Exception (); f (Oge 1 = 0) throw was father Age Exception (); y class son cotten of pather Age Exception (); y class son cotten of pather Age Exception (); y class son cotten of pather Age Exception (); y class son cotten of point ("suter son oge"); ore 2 = 0 - next but ();
	Carren > - Name (hyptan-in); hun() hun
	Comment - Name (hyphanin); hun() fyhu() f
	James > - Name (hypturin); ghu(); fytus out production pitter age get = 5. next but(). I cold ex () Name we forther Age Exception; if (age = 0) trace naw forther Age Exception (); y Class son Cities as bother i public ext age z; son ()? system out print ("suter son"age") y age z = 2 next but(); void ex () Hurans son Age Exception i, if (age z > 0)1 age z > super age() throw new son Age exception (oges);
	(Manus > - Name (hyphanin); fyther (); Sque = S. next hat (). (ge) = S. next hat (). (odd exit) bloomy fritherhoe Exception (); (last four Charles bottom; (name four (); (nam
	phu(); ghten out producting patter age (get = 5. next met(). Joid RI() Recome forther Age Exception of it (Oget = 0) Krow was father Age Exception (); y Class son Charles better i public ext age z; son ()? System out print ("suter son age") y Oge 2 = 8. next met (); void erz () throug sontge Exception i, if (oge z > 0) 1 ogé z > super age!) throw were sontge exception (ogez);) Class father had ben i public state void mainlyting engel]
	phu(); ghten out producting patter oge (get = 5. next mil(). Jose (20) Reconst forther Age Exception of it (Oget = 0) Krow was father Age Exception (); y Class son Colleges bother i public ext age z; son ()? System out print ("suter son age"); y Oge 2 = 8. next hit (); void erz () throws son age Exception ! if (oge z > 0) 1 oge 2 > super age!) throw were son age exception (oges);) Class Satten had lon! public state void mainlitting engel] fou 3 = new son ();
	phu(); ghten out producting patter age (get = 5. next met(). Joid RI() Recome forther Age Exception of it (Oget = 0) Krow was father Age Exception (); y Class son Charles better i public ext age z; son ()? System out print ("suter son age") y Oge 2 = 8. next met (); void erz () throug sontge Exception i, if (oge z > 0) 1 ogé z > super age!) throw were sontge exception (ogez);) Class father had ben i public state void mainlyting engel]
	phu(); ghu(); ghu();
	phu(); phu(); phu(); square out producting pitter age get 1 = 5 next but(). I cold ex 10 Narous forten Age Exception; if (age 1 = 6) trans you fatter Age Exception (); y class son cities as pitter Age Exception (); y class son cities as pitter Age Exception (); y class son cities as pitter Age Exception (); y class son cities as pitter Age Exception (); y oge 2 = 6 next but (); y oge 2 = 6 next but (); y oge 2 > 0 11 age 2 > super age () throw new son Age Exception (oges); J class (attendad loss i public static rold mainlitting engls) tou 3 = new son (); try 2; s calcia (gattur Age Exception () ? y static out plintlin (e)
	phus () = raw Sanner (hyptarin); ghus () = senert hat (); (get = senert hat (); (get = senert hat (); (get = senert hat (); (lost exist) Marony fritzentge Exception (); (lost son Charles fother to get; (son () ? (lost son Charles fother to get; (son () ? (son of exist) Autum (sontge Exception (); (of of exist) Harony (sontge Exception (); (of of exist) H
	phu(); ghu(); ghu();
	phus () = raw Sanner (hyptarin); ghus () = senert hat (); (get = senert hat (); (get = senert hat (); (get = senert hat (); (lost exist) Marony fritzentge Exception (); (lost son Charles fother to get; (son () ? (lost son Charles fother to get; (son () ? (son of exist) Autum (sontge Exception (); (of of exist) Harony (sontge Exception (); (of of exist) H



8) Write a program which creates two threads, one thread displaying "BMS College of Engineering" once every ten seconds and another displaying "CSE" once every two seconds.

Y	(FAER MI)
G	write a program which water Ithreads, one
1	loss de l'écons l'BMCE oule every ten
1	trunced displaying (BMSCE once every truly bronds & CCTE) once every 2 records.
1	
-	Max bure implements Rumable &
-	busce O E
-	ty = new Thread (this, "bury").
-	1 morales (mas) pund 2
-	public void sun ()?
	Try ?
	ph (inst i=5; i>0; i)?
	System out printly ("BM(CE");
	Shricol · sleep (10000);
-	-0.0 / 6 F - 1-1 F - 12 - 12
-	which (Interrupted Exception e)?
	System out painth (CBM interrupted bit)
	typium out printh ("Extring: "+ t);
	The are broken a colored
	4 30000
	Class Cle implement Rumable ?
	Freed to:
	(M ()
	to new Thread (this ou (18");
	9 /143
	public votal sun ()?
	The true to the second
-	185 (INT 1=0517031-7)
	System out pointly ("(SE");
	Missay - rapp (2000s).
	13
100	(PAIR NO.
170	(ath (to to some tid Exception c) }
1	cotch (Interess to Exception c) } years out printin ("((se interesptol))
1	cotch (Interess to Exception c) } years out printin ("((se interesptol))
1	(, and 14 teams tod frietling ()}
1	catch (Intersupted Exception c)? Tyrum out printin ("("E intersupted in Tyrum out printin ("Exiting: "tell)
1	catch (Interest to Exception c)? Year out printin ("("E interest)) (year out printin ("Exiting: "to.)
	catch (Interest to Exception c)? Year out printin ("("E interest)) (year out printin ("Exiting: "to.)
	cotch (Intersupted Exception c)? yearn out println ("CEE intersupted by Eyelun out println ("Exiting: "+tol.") Yearn Mused? Jublic static void nain Stringuese
	Catch (Interess) to Exception ()? Year out Println ("(It interespted to Gyllin out println ("Exiting: "to! Uan Murad? Public static void noun Mingray busse Ob! 1= now brusee ()
	Catch (Interess) to Exception ()? Year out Dunth ("CEE interespect to Gyllin out printh ("Exiting: "Ho! Year Mused? Public static void noun shings of busse Obj 1 = now busse () Un obj 2 = now ()
	cotch (Interest to Exception c) & Syram out printin ("("Ex interested by Fyram out printin ("Exiting: "test) Class thered? Public static word noun (thing say buse obj != now brusee () Choose obj != now brusee () Choose obj != now brusee ()
	Catch (Interess) to Exception ()? Year out Dunth ("CEE interespect to Gyllin out printh ("Exiting: "Ho! Year Mused? Public static void noun shings of busse Obj 1 = now busse () Un obj 2 = now ()
	Cotch (Intersupted Exception c)? Yearn out printly ("(IF intersupted by System out printly ("Exiting: "to! Substituted of the state of the st
	Cotch (Intersupted Exception c)? Yearn out printly ("(IF intersupted by System out printly ("Exiting: "to! Substituted of the state of the st
	cotch (Interes) to Exception c) & Syram out printin ("("Ex interespect to) Syram out printin ("Exiting: "test) Class thereod? public static word noun (thing sage busso Obj 1 = now brusce () cho 12 = now cho (); obj 1 - Nout (); obj 2 - test ();
1	Cotch (Intersupted Exception c)? Yearn out printly ("(IF intersupted by System out printly ("Exiting: "to! Substituted of the state of the st
I de la constante de la consta	cotch (Interest to Exception c) & System out printin ("("E interestable)" System out printin ("Exiting: "test Y con the and ? Public static void noun (Integrape busse obj != now busse () obj !! - start (); obj !! - start (); 3 Output: Brus CSE
	cotch (Intersupted Exception c)? Syram out printly ("CEE intersupted by Syram out printly ("Exiting: "test) Class thereod? public static void noun string sage busse obj != now brusee () Chy 2 - te - start (); y Output: BANS CSE CSE
	Cotch (Intersupted Exception C)? Year out printly ("CEE intersupted by System out printly ("Exiting: "Ital System out printly ("Exiting: "Ital Law Mused? Public static word main string says burso Obj 1 = naw brusse () UK Obj 2 = naw UK () Obj 11. H. Mart (): y Obj 2 - tr. Start (): y Output: Bry (CSE CSE CSE CSE
1	cotch (Interes) to Exception c) & System out printin ("("E interespectation) System out printin ("("Ex interespectation) System out printin ("Exiting: "test") Uses thread? Public static word now Mangary busso Obj 1 = now brusce (); Obj 2 = now (x (); Obj 1: A - start (); Obj 2 - tr : start (); 3 Output: Brus CSE CSE CSE CSE CSE CSE
I de la constante de la consta	cotch (Interest to Exception c) & System out printly ("("E interest)") System out printly ("Exiting: "test") Uses thereod? Public static word now (thing say busso Obj 1 = now brusce () us obj 1 = now brusce () us obj 1 = now (); Obj 2 - t : start (); y Output: Bris CSE CSE CSE CSE
	cotch (Intersupted Exception c)? Yearn out printly ("CEE intersupted by System out printly ("Exiting: "Ital Yearn out printly ("Exiting: "Ital Yearn out printly ("Exiting: "Ital Lass Thread? Public static void main(Shingsey) Dunse Obj 1 = new brusee () Let Obj 2 = new (x (); Obj 11. H. Mout (); Yearn out (x (); Yearn out (x (); Obj 11. H. Mout (); Yearn out (x (); Yearn out
15,/5,000	Cotch (Intersupted Exception C)? Year out printly ("CEE intersupted by System out printly ("Exiting: Ital Year Mused? Public static word main string sepe burso Obj 1 = new brusse () UK Obj 2 = new UK () Obj 11. A. Mart (): Y Oty 2 - tr. Start (): Y Output: BM1 CSE CSE CSE CSE CSE CSE CSE CS
Att./Surv	Cotch (Intersus to the Exception c) & System out printin ("(" in the supply by System out printin (" Exiting: " test Y Class thread? Public static void noun (thing say busse Obj 1 = now brusce () Obj 12 = now ou (); Obj 12 + 1 · start (); Y Output: Brus CSE CSE CSE CSE CSE CSE CSE CS
	Catch (Intersus ted Exception c)? System out printin ("CEE intersupted by System out printin ("CEE intersupted by System out printin ("CEE intersupted by System out printin ("CEXITY : "Its! Class thread? public static void nounthing sage busse obj != now brusee () Ch obj !! - Nout (): Ch !! I - Nout (): Ship : State (): 3 Output: BAN (CSE CSE CSE CSE CSE CSE CSE CS
	Catch (Intersus ted Exception c)? Syram out printin ("CEE intersuption" Full country printing ("CEE intersuption" Lass thread? Dusse Obj != now brusee () Cu obj !! - now brusee () Cu obj !! - now (): Chy 2 - tr. start (): y Dutput: BAN (CSE CSE CSE CSE CSE CSE CSE CS
15/5075	Catch (Intersus ted Exception c)? Syram out printin ("CEE intersuption" Full country printing ("CEE intersuption" Lass thread? Dusse Obj != now brusee () Cu obj !! - now brusee () Cu obj !! - now (): Chy 2 - tr. start (): y Dutput: BAN (CSE CSE CSE CSE CSE CSE CSE CS
100	Catch (Intersupted Exception c)? Syram out printly ("CEE intersupted by Leas Thread? Dussic Obj 1 = now brusee () We obj 2 = now brusee () Obj 11
	Catch (Intersus ted Exception c)? Syram out printin ("CEE intersuption" Full country printing ("CEE intersuption" Lass thread? Dusse Obj != now brusee () Cu obj !! - now brusee () Cu obj !! - now (): Chy 2 - tr. start (): y Dutput: BAN (CSE CSE CSE CSE CSE CSE CSE CS
	Catch (Intersus ted Exception c)? Syram out printin ("CEE intersuption" Full country printing ("CEE intersuption" Lass thread? Dusse Obj != now brusee () Cu obj !! - now brusee () Cu obj !! - now (): Chy 2 - tr. start (): y Dutput: BAN (CSE CSE CSE CSE CSE CSE CSE CS
	Catch (Intersus ted Exception c)? Syram out printin ("CEE intersuption" Full country printing ("CEE intersuption" Lass thread? Dusse Obj != now brusee () Cu obj !! - now brusee () Cu obj !! - now (): Chy 2 - tr. start (): y Dutput: BAN (CSE CSE CSE CSE CSE CSE CSE CS

```
Administrator. C.\vviiiooxister
  CIN.
  Microsoft Windows [Version 6.3.9600]
(c) 2013 Microsoft Corporation. All rights reserved.
     \Program Files\Java\jdk1.8.0_231\bin\javac thread1.java
C:\Program Files\Java\jdk1.8.0_231\bin>java threadprg
CSE
BMS College of Engineering
CSE
CSE
CSE
CSE
CSE
CSE
BMS College of Engineering
Exiting: Thread[cse,5,main]
BMS College of Engineering
BMS College of Engineering
BMS College of Engineering
BMS College of Engineering
Exiting: Thread[bms,5,main]
C:\Program Files\Java\jdk1.8.0_231\bin>_
```