Main.java 3

Main.java > Java > Mini

```java
import java.util.*;
interface Ride
{
    double calculateFare(double distance);
    String getRideType();
}
class Mini implements Ride
{
    private final double fareperKm = 8.0;
    @Override
    public double calculateFare(double distance)
    {
        return fareperKm * distance;
    }
    @Override
    public String getRideType()
    {
        return "Mini";
    }
}
class Prime implements Ride
{
     private final double fareperKm = 12.0;
     @Override
    public double calculateFare(double distance)
    {
        return fareperKm * distance;
    }
    @Override
    public String getRideType()
    {
        return "Prime";
    }
}
class SUV implements Ride
{
     private final double fareperKm = 15.0;
     @Override
    public double calculateFare(double distance)
    {
        return fareperKm * distance;
    }
    @Override
    public String getRideType()
    {
        return "SUV";
    }
}
```

Main.java 3

Main.java > Java > Mini

```
35  class SUV implements Ride
44      public String getRideType()
45      {
46          return "SUV";
47      }
48  }
49  public class Main
50  {
        Run | Debug | Run main | Debug main
51      public static void main(String[] args) {
52          Scanner sc=new Scanner(System.in);
53          System.out.println(x: "1.Mini ride 2.Prime ride 3.SUV ride");
54          System.out.println(x: "Enter your ride type:");
55          int ch=sc.nextInt();
56          System.out.println(x: "Enter distance:");
57          double distance=sc.nextDouble();
58           Ride ride=null;
59          switch (ch)
60          {
61              case 1:ride= new Mini();
62              break;
63              case 2:ride=new Prime();
64              break;
65              case 3:ride=new SUV();
66              break;
67              default:System.out.println(x: "Invalid choice");
68          }
69          System.out.println("Ride type:"+ride.getRideType());
70          System.out.println("Distance:"+distance+"km");
71          System.out.println("Total fare:"+ride.calculateFare(distance)+"Rs");
72          sc.close();
73      }
74  }
```

```
PS C:\Users\admin\Documents\1wn24cs086>  & 'C:\Program Files\Java\jdk-23\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\admin\AppData\Roaming\Code\User\workspaceStorage\33c681cd519463f9547b75494812e868\redhat.java\jdt_ws\1wn24cs086_b6631ca\bin' 'Main'
1.Mini ride 2.Prime ride 3.SUV ride
Enter your ride type:
1
Enter distance:
10
Ride type:Mini
Distance:10.0km
PS C:\Users\admin\Documents\1wn24cs086>
PS C:\Users\admin\Documents\1wn24cs086>  c:; cd 'c:\Users\admin\Documents\1wn24cs086'; & 'C:\Program Files\Java\jdk-23\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\admin\AppData\Roaming\Code\User\workspaceStorage\33c681cd519463f9547b75494812e868\redhat.java\jdt_ws\1wn24cs086_b6631ca\bin' 'Main'
1.Mini ride 2.Prime ride 3.SUV ride
Enter your ride type:
2
Enter distance:
10
Ride type:Prime
Distance:10.0km
Total fare:120.0Rs
PS C:\Users\admin\Documents\1wn24cs086> ^C
PS C:\Users\admin\Documents\1wn24cs086>
PS C:\Users\admin\Documents\1wn24cs086>  c:; cd 'c:\Users\admin\Documents\1wn24cs086'; & 'C:\Program Files\Java\jdk-23\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\admin\AppData\Roaming\Code\User\workspaceStorage\33c681cd519463f9547b75494812e868\redhat.java\jdt_ws\1wn24cs086_b6631ca\bin' 'Main'
1.Mini ride 2.Prime ride 3.SUV ride
Enter your ride type:
3
Enter distance:
10
Ride type:SUV
Distance:10.0km
Total fare:150.0Rs
PS C:\Users\admin\Documents\1wn24cs086>
```

Focus folder in explorer (ctrl + click)

WAE.java > Java > WAE > main(String[] args)

```java
class WrongAgeException extends Exception
{
    WrongAgeException(String msg)
    {
        super(msg);
    }

}
class Father
{
    int Fage;
    Father(int Fage) throws WrongAgeException
    {
        if(Fage<0)
        {
            throw new WrongAgeException(msg: "Can't be less than zero");
        }
    }
}
class Son extends Father
{
    int Sage;
    Son(int Fage,int Sage) throws WrongAgeException
   {
     super(Fage);
     this.Sage=Sage;
     if(Sage>=Fage)
     {
        throw new WrongAgeException(msg: "Son age can't be greater than or equal to father age");
     }
   }

}
public class WAE{
    Run main | Debug main | Run | Debug
    public static void main(String[] args) {
          try {
            Son s = new Son(Fage: 40, Sage: 20); // valid
            System.out.println(x: "Father age: 40, Son age: 20");
        }
        catch (WrongAgeException e) {
            System.out.println("Exception: " + e.getMessage());
        }

        // Example to show exception
        try {
            Son s2 = new Son(Fage: 40, Sage: 45); // invalid
        }
```

```
class Father
    }
}
class Son extends Father
{
    int Sage;
    Son(int Fage,int Sage) throws WrongAgeException
   {
     super(Fage);
     this.Sage=Sage;
     if(Sage>=Fage)
     {
        throw new WrongAgeException(msg: "Son age can't be greater than or equal to father age");
     }
    }

}
public class WAE{
    Run main | Debug main | Run | Debug
    public static void main(String[] args) {
         try {
           Son s = new Son(Fage: 40, Sage: 20);
           System.out.println(x: "Father age: 40, Son age: 20");
        }
        catch (WrongAgeException e) {
            System.out.println("Exception: " + e.getMessage());
        }

        try {
            Son s2 = new Son(Fage: 40, Sage: 45);
        }
        catch (WrongAgeException e) {
            System.out.println("Exception: " + e.getMessage());
        }
        try {
            Son s3 = new Son(-40, Sage: 45);
        }
        catch (WrongAgeException e) {
            System.out.println("Exception: " + e.getMessage());
        }
    }
}
```

Quad.java - Notepad

ile Edit Format View Help

```
mport java.util.*;
ublic class evenOrodd

   public static void main(String[] args) {
       Scanner sc=new Scanner(System.in);
       System.out.println("Enter a number:");
       int a=sc.nextInt();
       if(a%2==0)
       {
           System.out.println("Entered number is an Even number");
       }
       else{
           System.out.println("Entered number is an Odd number");
       }

   }
```

Quad.java - Notepad

File Edit Format View Help

```
import java.util.*;
public class Quad
{
    public static void main(String[] args)
    {
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter a,b,c values:");
        double a=sc.nextDouble();
        double b=sc.nextDouble();
        double c=sc.nextDouble();
        if(a==0&&b==0)
        {
            System.out.println("No roots!");
        }
        else if(a==0)
        {
            System.out.println("Linear equation.Unique solution");
            double root=-c/b;
            System.out.println("Root="+root);
        }
        else
        {
            double d=b*b-4*a*c;
            if(d==0)
            {
                System.out.println("Equal roots!");
                double root1=-b/2*a;
                double root2=-b/2*a;
                System.out.println("Root 1="+root1+"Root2="+root2);
            }
            else if(d>0)
            {
                System.out.println("Real and Distinct roots!!");
                double root1=-b+Math.sqrt(d)/2*a;
                double root2=-b-Math.sqrt(d)/2*a;
                System.out.println("Root 1="+root1+"Root 2="+root2);

            }
            else
            {
                System.out.println("Imaginary roots!");
                double real=-b/2*a;
                double imag=Math.sqrt(-d)/2*a;
                System.out.println("Root 1="+real+"+i"+imag);
                System.out.println("Root 2="+real+"-i"+imag);
            }
        }
    }

}
```

Command Prompt

```
(c) Microsoft Corporation. All rights reserved.

C:\Users\Admin>cd C:\Users\Admin\Documents\deeksha r naik

C:\Users\Admin\Documents\deeksha r naik>javac Quad.java

C:\Users\Admin\Documents\deeksha r naik>java Quad
Enter a,b,c values:
5
8
9
Imaginary roots!
Root 1=-20.0+i26.92582403567252
Root 2=-20.0-i26.92582403567252

C:\Users\Admin\Documents\deeksha r naik>
```

t.java ×

nt.java

```java
import java.util.Scanner;

class Student {
    String usn, name;
    int[] credits = new int[5];
    int[] marks = new int[5];

    void accept() {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter USN and Name: ");
        usn = sc.next();
        name = sc.next();

        for (int i = 0; i < 5; i++) {
            System.out.print("Enter credits and marks of subject " + (i + 1) + ": ");
            credits[i] = sc.nextInt();
            marks[i] = sc.nextInt();
        }
    }

    void display() {
        System.out.println("USN: " + usn);
        System.out.println("Name: " + name);
        System.out.println("SGPA: " + calculateSGPA());
    }

    double calculateSGPA() {
        int totalCredits = 0;
        int total = 0;
        for (int i = 0; i < 5; i++) {
            totalCredits += credits[i];
            total += credits[i] * (marks[i] / 10);
```

Student.java

Student.java

```
3   class Student {
        void accept() {
19      }
20
21      void display() {
22          System.out.println("USN: " + usn);
23          System.out.println("Name: " + name);
24          System.out.println("SGPA: " + calculateSGPA());
25      }
26
27      double calculateSGPA() {
28          int totalCredits = 0;
29          int total = 0;
30          for (int i = 0; i < 5; i++) {
31              totalCredits += credits[i];
32              total += credits[i] * (marks[i] / 10);
33          }
34          return (double) total / totalCredits;
35      }
36
37      public static void main(String[] args) {
38          Student s = new Student();
39          s.accept();
40          s.display();
41      }
42  }
43
44
```

```
cd "c:\Users\Jayaraj\Desktop\Java\" ; if ($?) { javac Student.java } ; if ($?) { java Student }
Enter USN and Name: 1WN24CS000
Jay
Enter credits and marks of subject 1: 4
90
Enter credits and marks of subject 2: 4
95
Enter credits and marks of subject 3: 4
93
Enter credits and marks of subject 4: 3
98
Enter credits and marks of subject 5: 3
90
USN: 1WN24CS000
Name: Jay
SGPA: 9.0
PS C:\Users\Jayaraj\Desktop\Java>
```

Welcome | pal.java 1 | swap.java

swa Welcome (preview) main(String[] args)

```java
public class swap
{
    Run main | Debug main
    public static void main(String[] args) {
        int a=10,b=20,temp;
        temp=a;
        a=b;
        b=temp;
        System.out.println("After swapping: a="+a+" b="+b);
    }
}
```

PROBLEMS 1 | OUTPUT | DEBUG CONSOLE | TERMINAL | PORTS

```
PS C:\Users\Admin\Documents\deeksha r naik>
PS C:\Users\Admin\Documents\deeksha r naik> javac swap.java
PS C:\Users\Admin\Documents\deeksha r naik> java swap
After swapping: a=20b=10
PS C:\Users\Admin\Documents\deeksha r naik> javac swap.java
PS C:\Users\Admin\Documents\deeksha r naik> java swap
After swapping: a=20 b=10
PS C:\Users\Admin\Documents\deeksha r naik>
```

ook.java

```java
class Book {
    String name, author;
    double price;
    int pages;

    Book(String n, String a, double p, int pg) {
        name = n;
        author = a;
        price = p;
        pages = pg;
    }

    public String toString() {
        return "Book: " + name + ", Author: " + author +
               ", Price: " + price + ", Pages: " + pages;
    }

    public static void main(String[] args) {
        Book b1 = new Book("Java", "James", 450, 500);
        Book b2 = new Book("Python", "Guido", 400, 450);

        System.out.println(b1);
        System.out.println(b2);
    }
}
```

```
PS C:\Users\Jayaraj\Desktop\Java> cd "c:\Users\Jayaraj\Desktop\Java\" ; if ($?) { javac Book.java } ; if ($?) { java Book }
Book: Java, Author: James, Price: 450.0, Pages: 500
Book: Python, Author: Guido, Price: 400.0, Pages: 450
PS C:\Users\Jayaraj\Desktop\Java>
```

```java
abstract class Shape {
    int a, b;
    abstract void printArea();
}

class Rectangle extends Shape {
    Rectangle(int l, int w) {
        a = l; b = w;
    }
    void printArea() {
        System.out.println("Rectangle Area: " + (a * b));
    }
}

class Triangle extends Shape {
    Triangle(int b, int h) {
        a = b; b = h;
    }
    void printArea() {
        System.out.println("Triangle Area: " + (0.5 * a * b));
    }
}

class Circle extends Shape {
    Circle(int r) {
        a = r;
    }
    void printArea() {
        System.out.println("Circle Area: " + (3.14 * a * a));
    }
}
public class hi{
```

```
class Circle extends Shape {
    Circle(int r) {
        a = r;
    }
    void printArea() {
        System.out.println("Circle Area: " + (3.14 * a * a));
    }
}
public class hi{
    public static void main(String[] args) {
        new Rectangle(4, 5).printArea();
        new Triangle(3, 6).printArea();
        new Circle(7).printArea();
    }
```

```
cd "c:\Users\Jayaraj\Desktop\Java\" ; if ($?) { javac hi.java } ; if ($?) { java hi }
Rectangle Area: 20
Triangle Area: 0.0
Circle Area: 153.86
PS C:\Users\Jayaraj\Desktop\Java>
```

hi.java

```java
class Account {
    String name;
    int accNo;
    double balance;

    void deposit(double amt) {
        balance += amt;
    }

    void display() {
        System.out.println("Balance: " + balance);
    }
}

class SavAcct extends Account {
    void addInterest() {
        balance += balance * 0.05;
    }
}

class CurAcct extends Account {
    void withdraw(double amt) {
        balance -= amt;
        if (balance < 1000) {
            balance -= 100;
        }
    }
}
public class hi{
     public static void main(String[] args) {
        SavAcct s = new SavAcct();
        s.deposit(5000);
```

hi.java

```java
class SavAcct extends Account {
}

class CurAcct extends Account {
    void withdraw(double amt) {
        balance -= amt;
        if (balance < 1000) {
            balance -= 100;
        }
    }
}
public class hi{
     public static void main(String[] args) {
        SavAcct s = new SavAcct();
        s.deposit(5000);
        s.addInterest();
        s.display();

        CurAcct c = new CurAcct();
        c.deposit(2000);
        c.withdraw(1200);
        c.display();
}
}
```

```
cd "c:\Users\Jayaraj\Desktop\Java\" ; if ($?) { javac hi.java } ; if ($?) { java hi }
Balance: 5250.0
Balance: 700.0
PS C:\Users\Jayaraj\Desktop\Java>
```

```java
class College extends Thread {
    public void run() {
        try {
            while (true) {
                System.out.println("BMS College of Engineering");
                Thread.sleep(10000);
            }
        } catch (Exception e) {}
    }
}

class Dept extends Thread {
    public void run() {
        try {
            while (true) {
                System.out.println("CSE");
                Thread.sleep(2000);
            }
        } catch (Exception e) {}
    }
}
public class hi{
    public static void main(String[] args) {
        new College().start();
        new Dept().start();
    }
}
```

```
                                cd "c:\Users\Jayaraj\Desktop\Java\" ; if ($?) { javac hi.java } ; if ($?) { java hi }
BMS College of Engineering
CSE
CSE
CSE
CSE
CSE
BMS College of Engineering
CSE
CSE
CSE
CSE
```