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| --- | --- | --- | --- | --- |
| Serial No | Topic Name | Date | Page no | Teacher’s sign |
| 1 | Explain the salient features of JAVA that makes it different from other programming languages | 16-08-2024 | 1-4 |  |
| 2 | What is the difference between class and object ? | 16-08-2024 | 4-7 |  |
| 3 | Strings are mutable or immutable in JAVA ? give example . | 16-08-2024 | 8-9 |  |
| 4 | Which are the various data types in JAVA ? What is the difference between keyword , identifier , literal and operator ? Give an example . | 17-08-2024 | 10-13 |  |
| 5 | Explain Object Oriented Features of JAVA . | 17-08-2024 | 14-17 |  |
| 6 | Write and explain the structure of a JAVA program . | 17-08-2024 | 18-23 |  |
| 7 | How are comments added in a JAVA program ? | 17-08-2024 | 24-27 |  |
| 8 | Explain five String handling functions | 17-08-2024 | 28-32 |  |
| 9 | JAVA is secure , robust and platform independent . Explain the features of JAVA  that make it support this statement . | 17-08-2024 | 33-35 |  |
| 10 | Explain basic building blocks of the Object Oriented paradigm . How is this paradigm better that the procedural ? | 18-08-2024 | 36-40 |  |
| 11 | Which are the advantages of inheritance ? Which are different types of inheritance in JAVA ? | 19-08-2024 | 41-46 |  |
| 12 | What is the difference between class , abstract class and interface ? How does an interface differ from class ? | 19-08-2024 | 47-50 |  |
| 13 | What is use of method overriding and method overloading ? Give an example of both . What is the use of super and final keywords ? | 19-08-2024 | 51-54 |  |
| 14 | What is Interface ? Which are various similarities and differences between class and inheritance ? | 19-08-2024 | 54-59 |  |
| 15 | How is a package created and used in JAVA ? | 19-08-2024 | 60-63 |  |
| 16 | What are the advantages of using the concept of packages ? | 19-08-2024 | 64-67 |  |
| 17 | Create an inheritance structure for vehicles . How will you use final , this and super keywords while developing code for it ? | 19-08-2024 | 68-71 |  |
| 18 | What is a method in JAVA ? How is it defined and called ? | 19-08-2024 | 72-78 |  |
| 19 | Which package does contain the methods for handling input/output ? Explain the procedure to read from console characters and Strings . | 19-08-2024 | 79-80 |  |
| 20 | Explain the structure of if-else-if ladder  And the switch statement . Give an example to show when it is better to use switch statements . | 20-08-2024 | 81-86 |  |
| 21 | What is polymorphism ? How is it helpful ? Explain it’s use with example operator overloading . | 20-08-2024 | 87-92 |  |
| 22 | Explain the use of exception handling in JAVA ? Which are checked and unchecked exceptions ? Explain | 20-08-2024 | 93-98 |  |
| 23 | What is exception handling ? Why are exceptions raised ? explain the meaning of different keywords associated with exception handling . | 20-08-2024 | 99-103 |  |
| 24 | Explain the use of the following in  JAVA :   1. Try-catch 2. Try-finally 3. Throw and Throws | 20-08-2024 | 104-109 |  |
| 25 | What is the use of threads ? Give any three practical examples where threads may be required . Why and how can you change thread priority . ? | 20-08-2024 | 110-116 |  |
| 26 | Why is multithreading important ? Write down the complete life  cycle of a thread . | 20-08-2024 | 117-120 |  |
| 27 | What is thread ? How is it different from a process ? Explain the basic constructs of creating threads and use them to synchronize asynchronous tasks . | 20-08-2024 | 121-125 |  |
| 28 | Explain the following :   1. Buffered Input / Output stream . 2. JDBC | 20-08-2024 | 126-130 |  |
| 29 | Write a program in JAVA to show records of the students table of MySql . Assume  table as : Student(RollNo, StudentName ,DOB , CourseName) . | 21-08-2024 | 131-135 |  |
| 30 | Write a program in JAVA to show records of the employee table of MySql . Assume  table as : Employee (EmpID, EmpName ,Salary , DOJ ) | 22-08-2024 | 136-141 |  |
| 31 | How does JAVA handle data for permanent storage ? Write code to create , read and close a file structure for storing data for long term use . | 21-08-2024 | 142-148 |  |
| 32 | Suppose there is a MySql database to store data about online applicants of a recruitment drive . Write down statement to connect a JAVA program to the MySql database and add , manipulate data . | 21-08-2024 | 149-154 |  |

Java Practical file

1 Que : Display a text on the console.

*//  Display a text on the console.*

public class **TextConsole**{

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

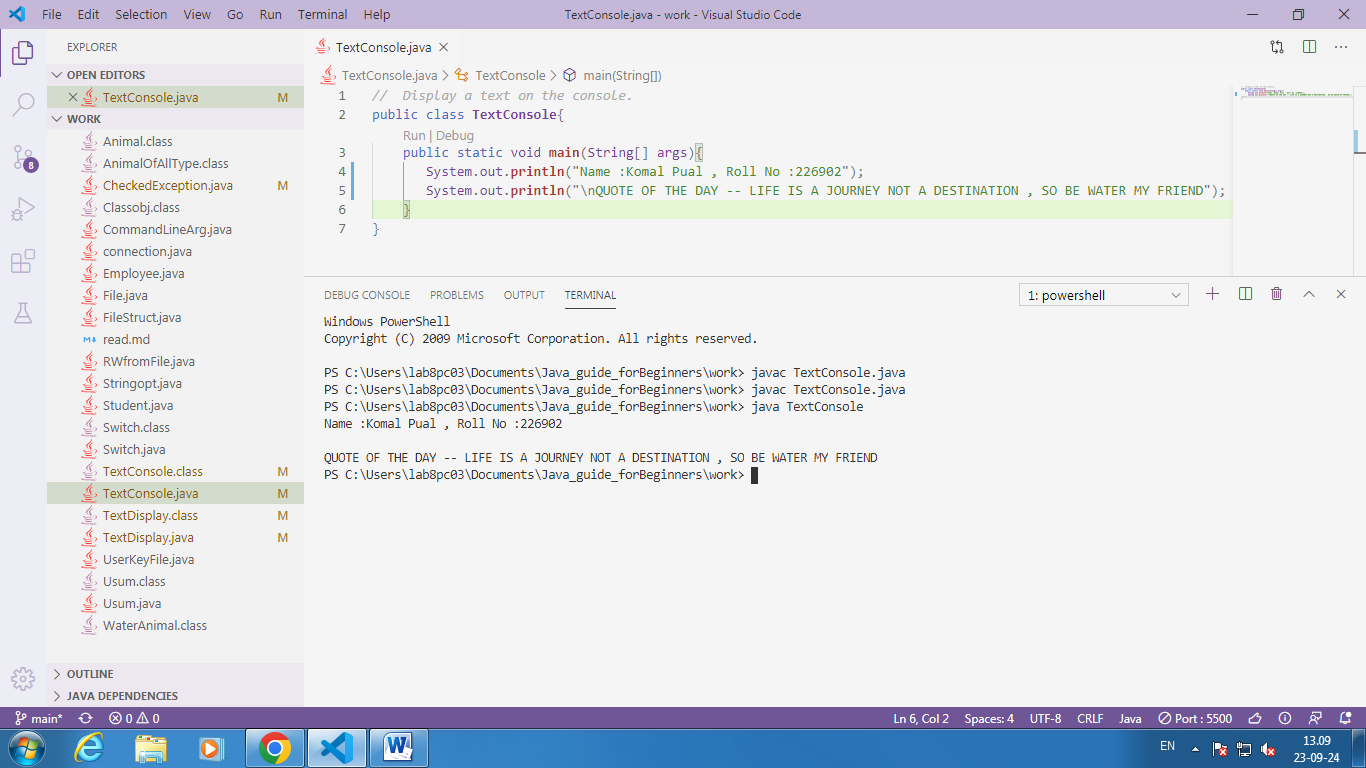
        System.out.**println**("Name :Komal Pual , Roll No :226902");

       System.out.**println**("QUOTE OF THE DAY -- LIFE IS A JOURNEY NOT A DESTINATION , SO BE WATER MY FRIEND");

    }

}

Output of first program :



2Que : Takes input from the user and displays it on the screen using graphical model of of input and output (J Option Pane class).

*// 2) Takes input from a user and displays it on the screen using the graphical mode of input/output (JOptionPaneclass) question--34*

import javax.swing.\*;

public class **TextDisplay**{

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

    System.out.**println**("Name :Komal Pual , Roll No :226902");

    String name   =  JOptionPane.**showInputDialog**("Enter your name");

    if(name instanceof String){

        System.out.**println**(name);

    }

    else{

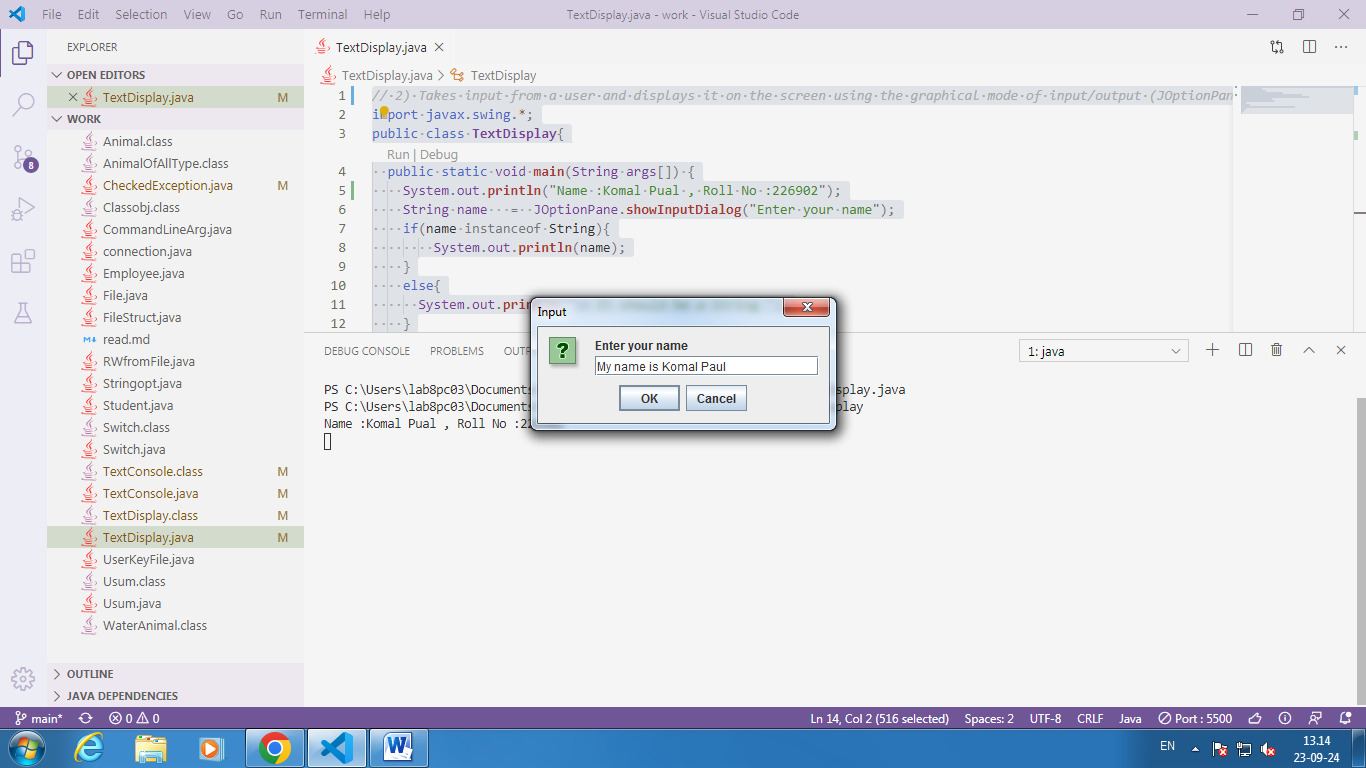
      System.out.**println**("\n It should be a String ");

    }

  }

}

Output of the 2nd program :



Que 3 : Illustrate the use of command line arguments .

*// 3) Illustrate the use of command line argument. question --35*

import java.util.Scanner ;

public class **CommandLineArg**{

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

    Scanner inputdata = new **Scanner**(System.in);

    int firstnum , secondnum ;

    System.out.**println**("\n Enter the first number ");

    firstnum = inputdata.**nextInt**();

    System.out.**println**("\n Enter second number");

    secondnum = inputdata.**nextInt**();

    int result = firstnum+secondnum;

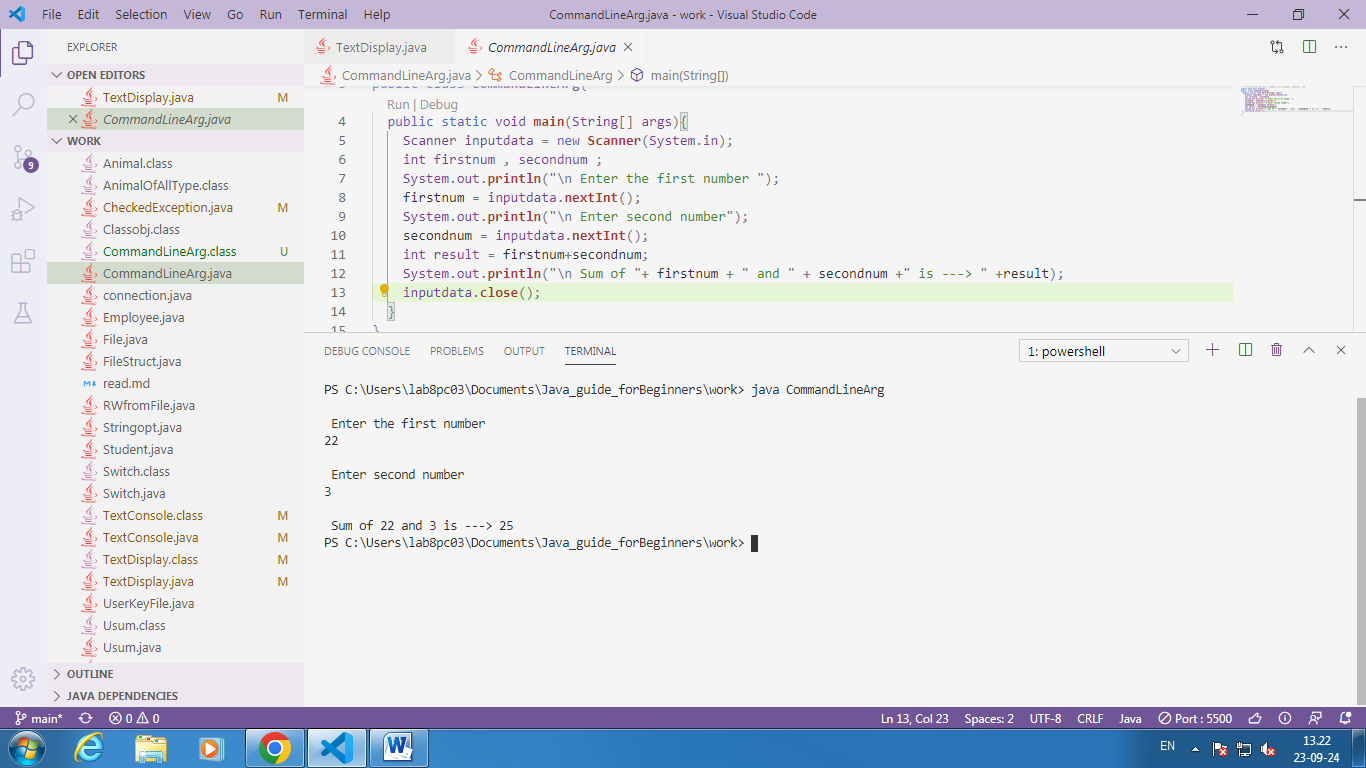
    System.out.**println**("\n Sum of "+ firstnum + " and " + secondnum +" is ---> " +result);

    inputdata.**close**();

  }

}

Output of 3rd program :



Que5 : Performs various operations applicable on two or more strings of characters .

*// 5) Performs various operations applicable on two or more string . question --37*

import java.util.Scanner ;

public class **Stringopt**{

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

         System.out.**println**("Name : Komal paul , Roll Number : 226902");

         String quote  = new **String**("Life is a journey not a destination so be water my friend , just go with flow ");

         System.out.**println**("The quote of the day is "+ quote);

*// a function to get the length of the string*

         int stringlength = quote.**length**();

         System.out.**println**("The length of the string is "+ stringlength);

*//a function to get a specific alphabet in the quote*

         try {

           Scanner inputdata = new **Scanner**(System.in);

           int specificint = inputdata.**nextInt**();

           char specificchar = quote.**charAt**(90);

           System.out.**println**("The char at "+ specificint + " is " + specificchar);

           inputdata.**close**();

          } catch (Exception e) {

            System.out.**println**("Something went wrong while getting the char specific location ");

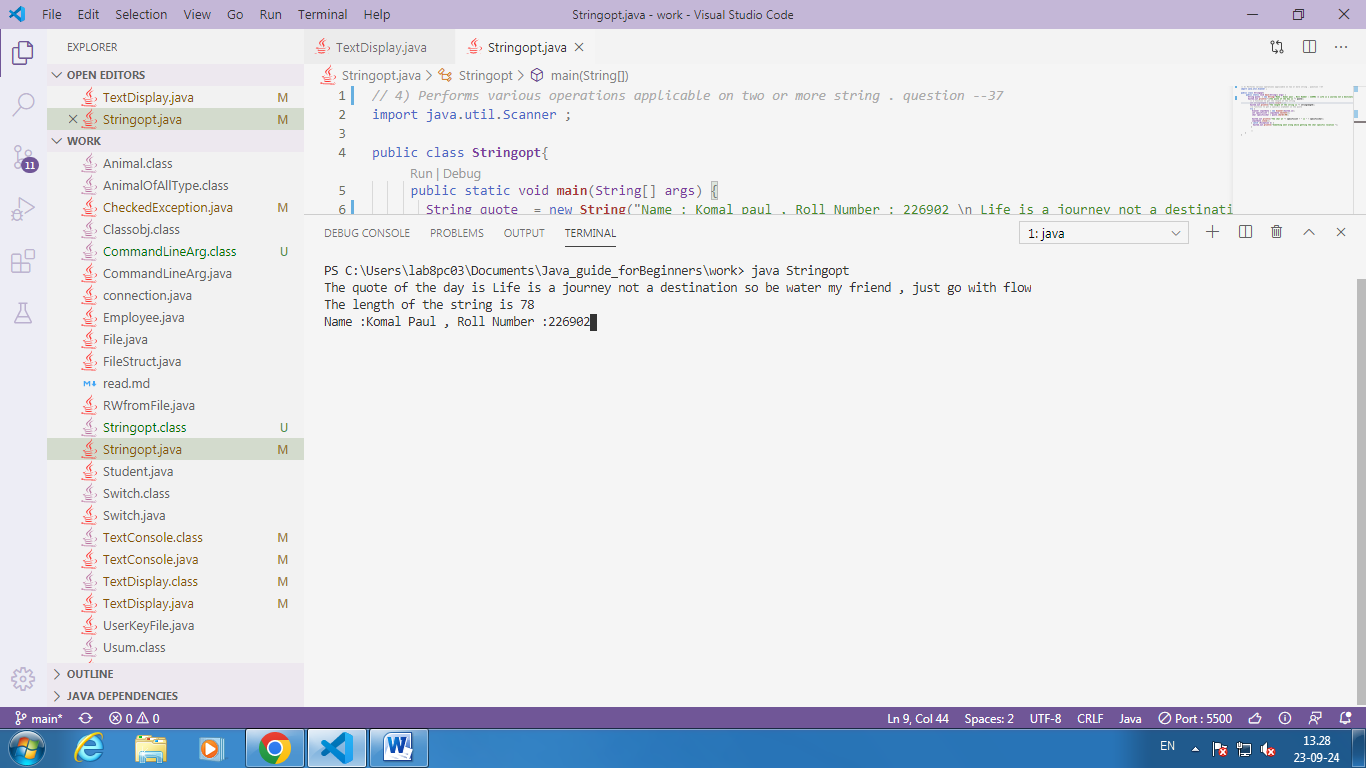
          }

*//*

    }

}

Output of the 4th program



5Que :Show the use of switch statement in terms of conditional branching .

*// 5) Shows the use of switch statement in terms of conditional branching . question -- 38*

import java.util.Scanner;

class **Switch** {

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

        int a, b, choice;

        System.out.**println**("Welcome to this program");

        System.out.**println**("\nWhich operation do you want to perform?");

        System.out.**println**("\nFor addition type 1 \nFor Subtraction type 2 \nFor Multiplication type 3 \nFor Division type 4");

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

        choice = input.**nextInt**();

        System.out.**println**("Enter value of two intergers to perform action");

        a = input.**nextInt**();

        b = input.**nextInt**();

        Program programref = new **Program**();

        switch (choice) {

            case 1:

                programref.**sum**(a,b);

                break;

            case 2:

                programref.**sub**(a,b);

                break;

            case 3:

                programref.**multiply**(a,b);

                break;

            case 4:

                programref.**divide**(a,b);

                break;

            default:

                System.out.**println**("Invalid choice");

        }

        input.**close**();

    }

}

class **Program** {

    public int **sum**(int a, int b) {

        int sum = a + b;

        System.out.**println**("The sum of two numbers is " + sum);

        return sum;

    }

    public void **sub**(int a, int b) {

        int sub = a - b;

        System.out.**println**("The subtraction of two numbers is " + sub);

    }

    public void **divide**(int a, int b) {

        if (b == 0) {

            System.out.**println**("Division by zero is not allowed.");

            return;

        }

        int divide = a / b;

        System.out.**println**("The division of two numbers is " + divide);

    }

    public void **multiply**(int a, int b) {

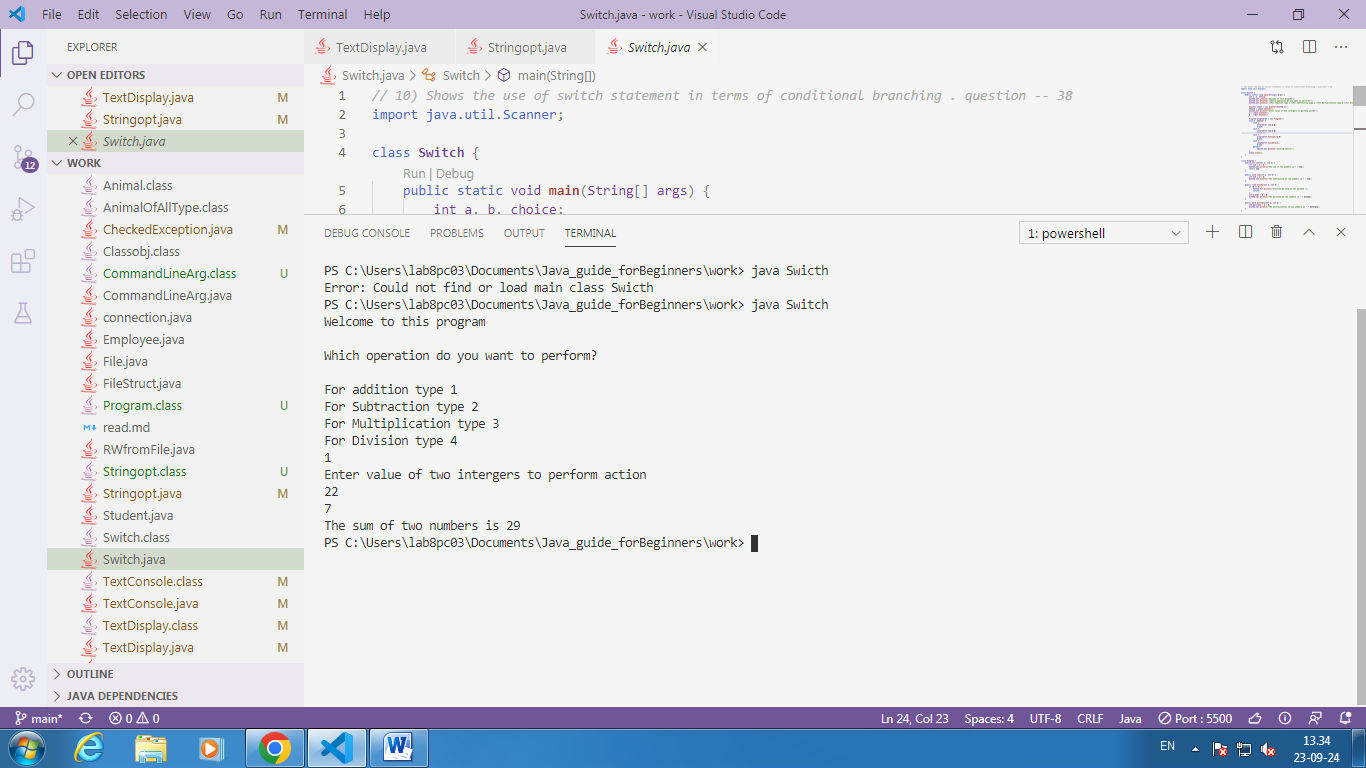
        int multiply = a \* b;

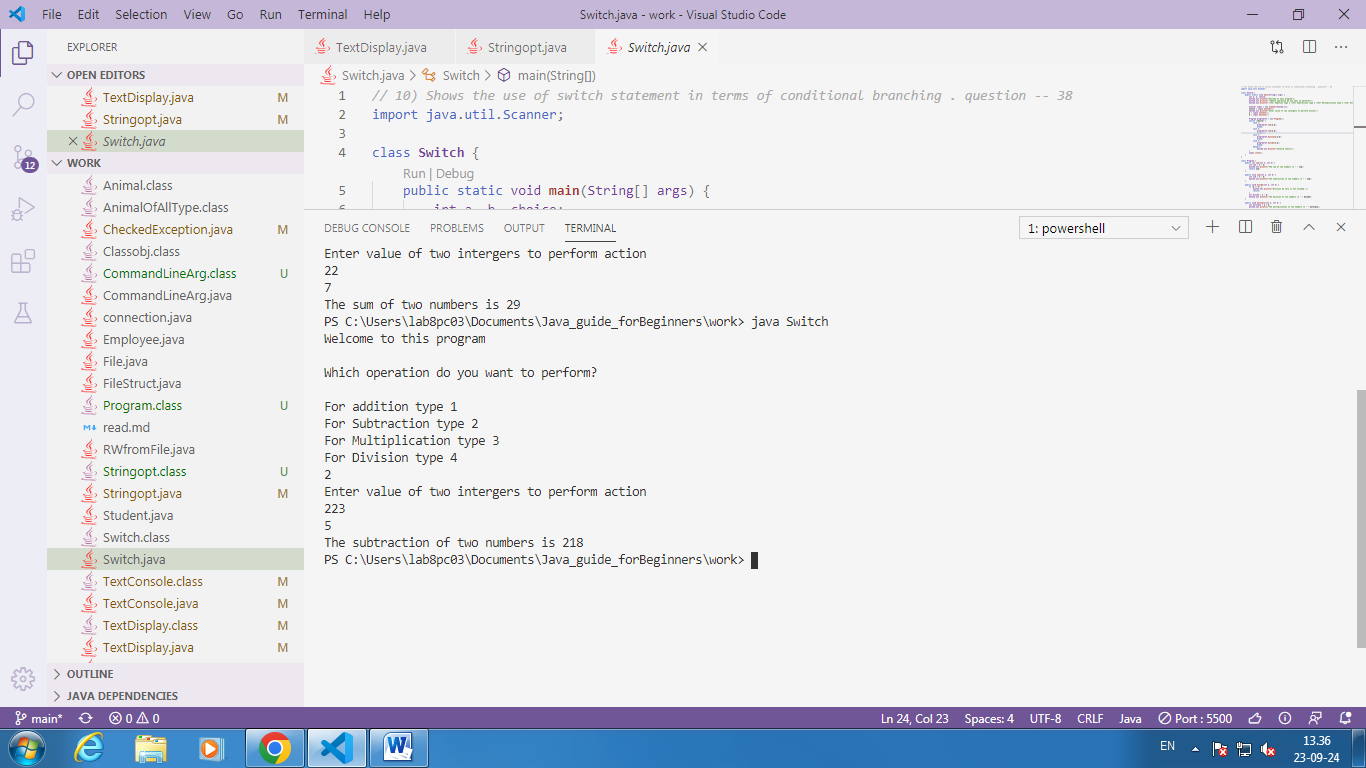
        System.out.**println**("The multiplication of two numbers is " + multiply);

    }

}

Output of 5th program :





6Que :Explains the creation and use of user defined class.

*// 6) Explain the creation and use of a user defined class.*

class **Usum** {

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

        System.out.**println**("Welcome to the code ");

       Sum  programref = new **Sum**();

        System.out.**println**(programref.**add**());

    }

}

  class **Sum**{

   private  int a = 10;

   private  int b = 20;

    public int **add**(){

      int sum =   a+b;

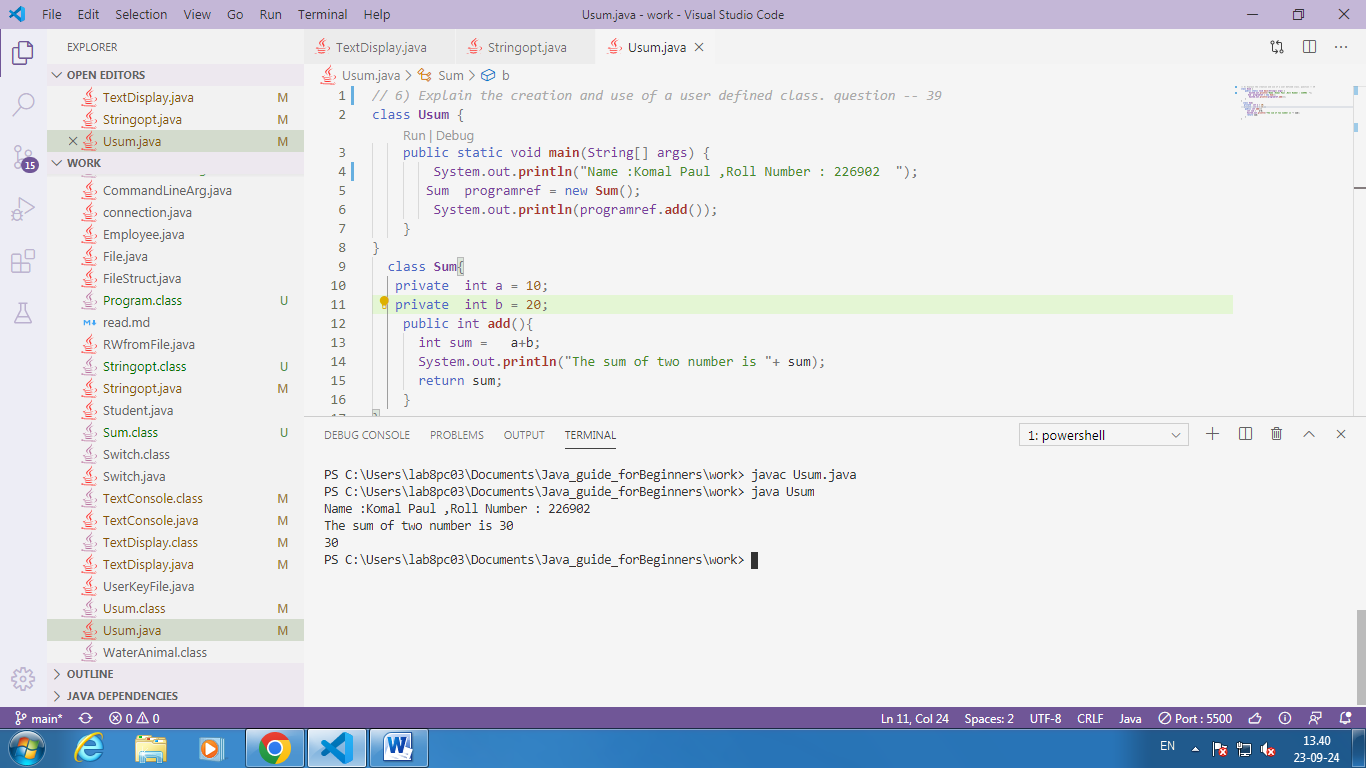
      System.out.**println**("The sum of two number is "+ sum);

      return sum;

    }

}

Output of the 6th program :



Que : Show the concept of inheritance of a class by another class .Also implement the concept of type Casting of the instance of the classes defined .