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**ROLL NO**: 509

**SUBJECT**: JAVA PROGRAMMING()

: PRACTICAL ASSIGNMENT-1

**Java Basic Programs**

**1. Write a java program to create variable of type char, short, int, float and double. Each - should be initialized and their values are displayed.**

|  |  |
| --- | --- |
| public class VariableExample {  public static void main(String[] args) {  // Declare and initialize variables  char charVariable = 'A';  short shortVariable = 12345;  int intVariable = 987654321;  float floatVariable = 123.45f;  double doubleVariable = 9876.54321;  // Display the values  System.out.println("Value of charVariable: " + charVariable);  System.out.println("Value of shortVariable: " + shortVariable);  System.out.println("Value of intVariable: " + intVariable);  System.out.println("Value of floatVariable: " + floatVariable);  System.out.println("Value of doubleVariable: " + doubleVariable);  // Display output for better readability  System.out.println("\nOutput:");  System.out.println("charVariable: " + charVariable);  System.out.println("shortVariable: " + shortVariable);  System.out.println("intVariable: " + intVariable);  System.out.println("floatVariable: " + floatVariable);  System.out.println("doubleVariable: " + doubleVariable);  }  } | **OUTPUT**  Value of charVariable: A  Value of shortVariable: 12345  Value of intVariable: 987654321  Value of floatVariable: 123.45  Value of doubleVariable: 9876.54321  Output:  charVariable: A  shortVariable: 12345  intVariable: 987654321  floatVariable: 123.45  doubleVariable: 9876.54321 |

**2**. **Write a java program that declares integer variable and float variable. Initialize them, - - add and multiply both variables and print the output.**

|  |  |
| --- | --- |
| public class ArithmeticOperations {  public static void main(String[] args) {  // Declare and initialize variables  int intVariable = 5;  float floatVariable = 3.5f;  // Perform arithmetic operations  float sum = intVariable + floatVariable;  float product = intVariable \* floatVariable;  // Display the output  System.out.println("Integer Variable: " + intVariable);  System.out.println("Float Variable: " + floatVariable);  System.out.println("\nSum (Addition): " + sum);  System.out.println("Product (Multiplication): " + product);  }  } | **OUTPUT**  Integer Variable: 5  Float Variable: 3.5  Sum (Addition): 8.5  Product (Multiplication): 17.5 |

**3. Write a java program to swap two integer numbers.**

|  |  |
| --- | --- |
| public class SwapNumbers {  public static void main(String[] args) {  // Declare and initialize two integer variables  int firstNumber = 5;  int secondNumber = 10;  System.out.println("Before swapping:");  System.out.println("First Number: " + firstNumber);  System.out.println("Second Number: " + secondNumber);  // Swap the numbers  int temp = firstNumber;  firstNumber = secondNumber;  secondNumber = temp;  System.out.println("\nAfter swapping:");  System.out.println("First Number: " + firstNumber);  System.out.println("Second Number: " + secondNumber);  }  } | **OUTPUT**  Before swapping:  First Number: 5  Second Number: 10  After swapping:  First Number: 10  Second Number: 5 |

**4. Write a java program to Check Even or Odd Integers.**

|  |  |
| --- | --- |
| import java.util.Scanner;  public class EvenOddCheck {  public static void main(String[] args) {  // Create a Scanner object for user input  Scanner scanner = new Scanner(System.in);  // Prompt the user to enter an integer  System.out.print("Enter an integer: ");  // Read the integer input from the user  int number = scanner.nextInt();  // Close the Scanner to prevent resource leak  scanner.close();  // Check if the number is even or odd  if (number % 2 == 0) {  System.out.println(number + " is an even number.");  } else {  System.out.println(number + " is an odd number.");  }  }  } | **OUTPUT**  Enter an integer: 25  25 is an odd number. |

**5. Write a Java Program to Find Largest Among 3 Numbers.**

|  |
| --- |
| import java.util.Scanner;  class test5  {  public static void main(String args[ ])  {  Scanner s=new Scanner(System.in);  System.out.print("Enter First Number : ");  int a=s.nextInt();  System.out.print("Enter Second Number : ");  int b=s.nextInt();  System.out.print("Enter Third Number : ");  int c=s.nextInt();  if(a>b && a>c)  {  System.out.print(a+" is largest Number");  }  else if(b>c)  {  System.out.print(b+" is largest Number");  }  else  {  System.out.print(c+" is largest Number");  }  }  }  **OUTPUT**  Enter First Number : 56  Enter Second Number : 89  Enter Third Number : 45  89 is largest Number |

**6. Write a Java Program to Display All Prime Numbers from 1 to N.**

|  |  |
| --- | --- |
| public class PrimeNumbers {  public static void main(String[] args) {  int N = 50; // You can change the value of N as needed  System.out.println("Prime numbers between 1 and " + N + " are:");  for (int i = 2; i <= N; i++) {  if (isPrime(i)) {  System.out.print(i + " ");  }  }  }  // Method to check if a number is prime  private static boolean isPrime(int num) {  if (num <= 1) {  return false;  }  for (int i = 2; i <= Math.sqrt(num); i++) {  if (num % i == 0) {  return false;  }  }  return true;  }  } | **OUTPUT**  Prime numbers between 1 and 50 are:  2 3 5 7 11 13 17 19 23 29 31 37 41 43 47 |

**7. Write a Java Program to Check Leap Year.**

|  |  |
| --- | --- |
| import java.util.Scanner;  public class LeapYearChecker {  public static void main(String[] args) {  Scanner scanner = new Scanner(System.in);  // Input year from the user  System.out.print("Enter a year: ");  int year = scanner.nextInt();  // Check if the year is a leap year  if (isLeapYear(year)) {  System.out.println(year + " is a leap year.");  } else {  System.out.println(year + " is not a leap year.");  }  scanner.close();  }  // Method to check if a year is a leap year  private static boolean isLeapYear(int year) {  // Leap year condition: divisible by 4 and not divisible by 100, or divisible by 400  return (year % 4 == 0 && year % 100 != 0) || (year % 400 == 0);  }  } | **OUTPUT**  Enter a year: 2024  2024 is a leap year. |

**8. Write a Java Program to Check Armstrong Number between Two Integers.**

|  |  |
| --- | --- |
| import java.util.Scanner;  public class ArmstrongNumbersBetweenRange {  public static void main(String[] args) {  Scanner scanner = new Scanner(System.in);  // Input range from the user  System.out.print("Enter the lower bound of the range: ");  int lowerBound = scanner.nextInt();  System.out.print("Enter the upper bound of the range: ");  int upperBound = scanner.nextInt();  System.out.println("Armstrong numbers between " + lowerBound + " and " + upperBound + " are:");  printArmstrongNumbers(lowerBound, upperBound);  scanner.close();  }  // Method to check if a number is an Armstrong number  private static boolean isArmstrong(int number) {  int originalNumber = number;  int n = String.valueOf(number).length();  int sum = 0;  while (number > 0) {  int digit = number % 10;  sum += Math.pow(digit, n);  number /= 10;  }  return sum == originalNumber;  }  // Method to print Armstrong numbers in a given range  private static void printArmstrongNumbers(int lowerBound, int upperBound) {  for (int i = lowerBound; i <= upperBound; i++) {  if (isArmstrong(i)) {  System.out.print(i + " ");  }  }  System.out.println(); // Move to the next line after printing the numbers  }  } | **OUTPUT**  Enter the lower bound of the range: 100  Enter the upper bound of the range: 1000  Armstrong numbers between 100 and 1000 are:  153 370 371 407 |

**9. Write a Java Program to Check whether input character is vowel or consonant.**

|  |  |
| --- | --- |
| import java.util.Scanner;  public class VowelConsonantChecker {  public static void main(String[] args) {  Scanner scanner = new Scanner(System.in);  // Input character from the user  System.out.print("Enter a character: ");  char inputChar = scanner.next().charAt(0);  // Check if the input character is a vowel or consonant  if (isVowel(inputChar)) {  System.out.println(inputChar + " is a vowel.");  } else {  System.out.println(inputChar + " is a consonant.");  }  scanner.close();  }  // Method to check if a character is a vowel  private static boolean isVowel(char ch) {  ch = Character.toLowerCase(ch);  return ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u';  }  } | **OUTPUT**  Enter a character: A  A is a vowel. |

**10. Write a Java Program to Find Factorial of a number.**

|  |  |
| --- | --- |
| import java.util.Scanner;  public class FactorialCalculator {  public static void main(String[] args) {  Scanner scanner = new Scanner(System.in);  // Input number from the user  System.out.print("Enter a number: ");  int number = scanner.nextInt();  // Calculate and display the factorial  long factorial = calculateFactorial(number);  System.out.println("Factorial of " + number + " is: " + factorial);  scanner.close();  }  // Method to calculate factorial of a number  private static long calculateFactorial(int n) {  if (n == 0 || n == 1) {  return 1;  } else {  return n \* calculateFactorial(n - 1);  }  }  } | **OUTPUT**  Enter a number: 5  Factorial of 5 is: 120 |

**11. Write a Java Program to Find Even Sum of Fibonacci Series Till number N.**

|  |  |
| --- | --- |
| import java.util.Scanner;  public class EvenFibonacciSum {  public static void main(String[] args) {  Scanner scanner = new Scanner(System.in);  // Input number N from the user  System.out.print("Enter a number N: ");  int N = scanner.nextInt();  // Calculate and display the sum of even Fibonacci numbers up to N  long evenFibonacciSum = calculateEvenFibonacciSum(N);  System.out.println("Sum of even Fibonacci numbers up to " + N + " is: " + evenFibonacciSum);  scanner.close();  }  // Method to calculate sum of even Fibonacci numbers up to N  private static long calculateEvenFibonacciSum(int N) {  long sum = 0;  long previous = 0;  long current = 1;  while (current <= N) {  if (current % 2 == 0) {  sum += current;  }  long next = previous + current;  previous = current;  current = next;  }  return sum;  }  } | **OUTPUT**  Enter a number N: 20  Sum of even Fibonacci numbers up to 20 is: 10 |

**12. Write a Java Program to Calculate Simple Interest.**

|  |  |
| --- | --- |
| import java.util.Scanner;  public class SimpleInterestCalculator {  public static void main(String[] args) {  Scanner scanner = new Scanner(System.in);  // Input principal amount, rate of interest, and time from the user  System.out.print("Enter the principal amount: ");  double principal = scanner.nextDouble();  System.out.print("Enter the rate of interest (in percentage): ");  double rateOfInterest = scanner.nextDouble();  System.out.print("Enter the time (in years): ");  double time = scanner.nextDouble();  // Calculate and display the simple interest  double simpleInterest = calculateSimpleInterest(principal, rateOfInterest, time);  System.out.println("Simple Interest: " + simpleInterest);  scanner.close();  }  // Method to calculate simple interest  private static double calculateSimpleInterest(double principal, double rateOfInterest, double time) {  // Simple Interest formula: SI = (P \* R \* T) / 100  return (principal \* rateOfInterest \* time) / 100;  }  } | **OUTPUT**  Enter the principal amount: 1000  Enter the rate of interest (in percentage): 5  Enter the time (in years): 2  Simple Interest: 100.0 |

**13. Write a Java Program to Calculate Compound Interest.**

|  |  |
| --- | --- |
| import java.util.Scanner;  public class CompoundInterestCalculator {  public static void main(String[] args) {  Scanner scanner = new Scanner(System.in);  // Input principal amount, rate of interest, time, and number of times interest applied per time period from the user  System.out.print("Enter the principal amount: ");  double principal = scanner.nextDouble();  System.out.print("Enter the rate of interest (in percentage): ");  double rateOfInterest = scanner.nextDouble();  System.out.print("Enter the time (in years): ");  double time = scanner.nextDouble();  System.out.print("Enter the number of times interest applied per time period: ");  int n = scanner.nextInt();  // Calculate and display the compound interest  double compoundInterest = calculateCompoundInterest(principal, rateOfInterest, time, n);  System.out.println("Compound Interest: " + compoundInterest);  scanner.close();  }  // Method to calculate compound interest  private static double calculateCompoundInterest(double principal, double rateOfInterest, double time, int n) {  // Compound Interest formula: CI = P \* (1 + (r/n))^(nt) - P  double r = rateOfInterest / 100;  return principal \* Math.pow(1 + (r / n), n \* time) - principal;  }  } | **OUTPUT**  Enter the principal amount: 1000  Enter the rate of interest (in percentage): 5  Enter the time (in years): 2  Enter the number of times interest applied per time period: 4  Compound Interest: 51.265625 |

**14. Write a Java Program to Find the Perimeter of a Rectangle.**

|  |  |
| --- | --- |
| import java.util.Scanner;  public class RectanglePerimeterCalculator {  public static void main(String[] args) {  Scanner scanner = new Scanner(System.in);  // Input length and width from the user  System.out.print("Enter the length of the rectangle: ");  double length = scanner.nextDouble();  System.out.print("Enter the width of the rectangle: ");  double width = scanner.nextDouble();  // Calculate and display the perimeter  double perimeter = calculateRectanglePerimeter(length, width);  System.out.println("Perimeter of the rectangle: " + perimeter);  scanner.close();  }  // Method to calculate perimeter of a rectangle  private static double calculateRectanglePerimeter(double length, double width) {  // Perimeter formula: P = 2 \* (length + width)  return 2 \* (length + width);  }  } | **OUTPUT**  Enter the length of the rectangle: 5  Enter the width of the rectangle: 3  Perimeter of the rectangle: 16.0 |

**Java 1-D Array Programs**

**15. Write a java program that initialize 1-D Array and display length of the array and its - - elements.**

|  |  |
| --- | --- |
| import java.util.Scanner;  class test15  {  public static void main(String args[ ])  {  Scanner s=new Scanner(System.in);  System.out.print("Enter a range : ");  int n=s.nextInt();  int a[ ]=new int[n];  for(int i=0;i<n;i++)  {  System.out.print("Enter an element : ");  a[i]=s.nextInt();  }  System.out.println("output :: ");  int count=0;  for(int i=0;i<n;i++)  {  System.out.println(a[i]);  count++;  }  System.out.println("length of the array :: "+count);  }  } | **OUTPUT**  Enter a range : 4  Enter an element : 34  Enter an element : 56  Enter an element : 78  Enter an element : 12  output ::  34  56  78  12  length of the array :: 4 |

**16. Write a Java Program to Search an Element in an Array with its sum.**

|  |
| --- |
| import java.util.Scanner;  class test16  {  public static void main(String args[ ])  {  Scanner s=new Scanner(System.in);  System.out.print("Enter a range : ");  int n=s.nextInt();  int a[ ]=new int[n];  for(int i=0;i<n;i++)  {  System.out.print("Enter an element : ");  a[i]=s.nextInt();  }  System.out.print("Enter a value which you want to search :: ");  int x=s.nextInt();  int flag=0,cnt=0;  for(int i=0;i<n;i++)  {  if(a[i]==x)  {  flag=1;  cnt++;  }  }  if(flag==1)  {  System.out.println("Element is found and its count is :: "+cnt);  }  else  {  System.out.println("Element does not find");  }  }  }  **OUTPUT**  Enter a range : 5  Enter an element : 2  Enter an element : 3  Enter an element : 2  Enter an element : 2  Enter an element : 3  Enter a value which you want to search :: 2  Element is found and its count is :: 3 |

**17. Write a Java Program to Find the Largest Element in an Array.**

|  |
| --- |
| import java.util.Scanner;  class test17  {  public static void main(String args[ ])  {  Scanner s=new Scanner(System.in);  System.out.print("Enter a range : ");  int n=s.nextInt();  int a[ ]=new int[n];  for(int i=0;i<n;i++)  {  System.out.print("Enter an element : ");  a[i]=s.nextInt();  }  int max=a[0];  for(int i=0;i<n;i++)  {  if(a[i]>max)  {  max=a[i];  }  }  System.out.println("Maximum element in array :: "+max);  }  }  **OUTPUT**  Enter a range : 4  Enter an element : 23  Enter an element : 67  Enter an element : 12  Enter an element : 34  Maximum element in array :: 67 |

**18. Write a Java Program to Sort an Array.**

|  |  |
| --- | --- |
| import java.util.Arrays;  import java.util.Scanner;  class test18  {  public static void main(String args[ ])  {  Scanner s=new Scanner(System.in);  System.out.print("Enter a range : ");  int n=s.nextInt();  int[ ] a=new int[n];  for(int i=0;i<n;i++)  {  System.out.print("Enter an element : ");  a[i]=s.nextInt();  }  Arrays.sort(a);  System.out.println("Shorted Array is :: ");  for(int i=0;i<n;i++)  {  System.out.println(a[i]);  }  }  } | **OUTPUT**  Enter a range : 4  Enter an element : 67  Enter an element : 23  Enter an element : 89  Enter an element : 12  Shorted Array is ::  12  23  67  89 |

**19. Write a Java Program to Sort the Elements of an Array in Descending Order.**

|  |  |
| --- | --- |
| import java.util.Scanner;  class test19  {  public static void main(String args[ ])  {  Scanner s=new Scanner(System.in);  System.out.print("Enter a range : ");  int n=s.nextInt();  int a[ ]=new int[n];  for(int i=0;i<n;i++)  {  System.out.print("Enter an element : ");  a[i]=s.nextInt();  }  int temp;  for(int i=0;i<n;i++)  {  for(int j=i+1;j<n;j++)  {  if(a[i]<a[j])  {  temp=a[i];  a[i]=a[j];  a[j]=temp;  }  }  }  System.out.println("Array in descending order :: ");  for(int i=0;i<n;i++)  {  System.out.println(a[i]);  }  }  } | **OUTPUT**  Enter a range : 5  Enter an element : 12  Enter an element : 34  Enter an element : 78  Enter an element : 56  Enter an element : 23  Array in descending order ::  78  56  34  23  12 |

**20. Write a Java Program to Sort the Elements of an Array in Ascending Order.**

|  |  |
| --- | --- |
| import java.util.Scanner;  class test20  {  public static void main(String args[ ])  {  Scanner s=new Scanner(System.in);  System.out.print("Enter a range : ");  int n=s.nextInt();  int a[ ]=new int[n];  for(int i=0;i<n;i++)  {  System.out.print("Enter an element : ");  a[i]=s.nextInt();  }  int temp;  for(int i=0;i<n;i++)  {  for(int j=i+1;j<n;j++)  {  if(a[i]>a[j])  {  temp=a[i];  a[i]=a[j];  a[j]=temp;  }  }  }  System.out.println("Array in Ascending order :: ");  for(int i=0;i<n;i++)  {  System.out.println(a[i]);  }  }  } | **OUTPUT**  Enter a range : 5  Enter an element : 67  Enter an element : 12  Enter an element : 56  Enter an element : 34  Enter an element : 90  Array in Ascending order ::  12  34  56  67  90 |

**21. Write a Java Program to Remove All Occurrences of an Element in an Array.**

|  |
| --- |
| import java.util.Arrays;  import java.util.Scanner;  class test21  {  public static void main(String args[ ])  {  Scanner s=new Scanner(System.in);  System.out.print("Enter a range : ");  int n=s.nextInt();  int a1[ ]=new int[n];  for(int i=0;i<n;i++)  {  System.out.print("Enter an element : ");  a1[i]=s.nextInt();  }  System.out.print("Enter an element which you want to remove :: ");  int r=s.nextInt();  int cnt=0;  for(int i=0;i<a1.length;i++)  {  if(a1[i]==r)  {  cnt++;  }  }  int a2[ ]=new int[a1.length-cnt];  int id=0;  for(int i=0;i<n;i++)  {  if(a1[i]!=r)  {  a2[id]=a1[i];  id++;  }  }  System.out.println("Original array is :: "+Arrays.toString(a1));  System.out.println("Modified array is :: "+Arrays.toString(a2));  }  }  **OUTPUT**  Enter a range : 5  Enter an element : 1  Enter an element : 2  Enter an element : 3  Enter an element : 4  Enter an element : 2  Enter an element which you want to remove :: 2  Original array is :: [1, 2, 3, 4, 2]  Modified array is :: [1, 3, 4] |

**Java 2-D Arrays (Matrix) Programs**

**22. Write a Java Program to Print a 2D Array.**

|  |
| --- |
| import java.util.Scanner;  class test22  {  public static void main(String args[ ])  {  Scanner s=new Scanner(System.in);  System.out.print("Enter a range : ");  int n=s.nextInt();  int a[ ][ ]=new int[n][n];  for(int i=0;i<n;i++)  {  for(int j=0;j<n;j++)  {  System.out.print("Enter an element : ");  a[i][j]=s.nextInt();  }  }  System.out.println("Matrix :: ");  for(int i=0;i<n;i++)  {  for(int j=0;j<n;j++)  {  System.out.print(" "+a[i][j]);  }  System.out.println(" ");  }  }  }  **OUTPUT**  Enter a range : 3  Enter an element : 1  Enter an element : 2  Enter an element : 3  Enter an element : 4  Enter an element : 5  Enter an element : 6  Enter an element : 7  Enter an element : 8  Enter an element : 9  Matrix ::  1 2 3  4 5 6  7 8 9 |

**23. Write a Java Program to Add, Sub, Mul, Div of Two Matrices. [use menu**

**driven concept].**

**24. Write a Java Program to Find the Transpose.**

|  |
| --- |
| import java.util.Scanner;  class test23  {  public static void main(String args[ ])  {  Scanner s=new Scanner(System.in);  System.out.print("Enter a range : ");  int n=s.nextInt();  int a[ ][ ]=new int[n][n];  int trans[ ][ ]=new int[n][n];  for(int i=0;i<n;i++)  {  for(int j=0;j<n;j++)  {  System.out.print("Enter an element : ");  a[i][j]=s.nextInt();  }  }  for(int i=0;i<n;i++)  {  for(int j=0;j<n;j++)  {  trans[j][i]=a[i][j];  }  }  System.out.println("Matrix :: ");  for(int i=0;i<n;i++)  {  for(int j=0;j<n;j++)  {  System.out.print(" "+a[i][j]);  }  System.out.println(" ");  }  System.out.println("Transpose :: ");  for(int i=0;i<n;i++)  {  for(int j=0;j<n;j++)  {  System.out.print(" "+trans[i][j]);  }  System.out.println(" ");  }  }  }  **OUTPUT**  Enter a range : 3  Enter an element : 1  Enter an element : 2  Enter an element : 3  Enter an element : 4  Enter an element : 5  Enter an element : 6  Enter an element : 7  Enter an element : 8  Enter an element : 9  Matrix ::  1 2 3  4 5 6  7 8 9  Transpose ::  1 4 7  2 5 8  3 6 9 |

**Java String Programs**

**25. Write a Java Program to Get a Character From the Given String.**

|  |  |
| --- | --- |
| import java.util.Scanner;  class test25  {  public static void main(String args[ ])  {  Scanner s=new Scanner(System.in);  System.out.print("Enter a string : ");  String str=s.nextLine();  System.out.print("Enter an index position : ");  int pos=s.nextInt();  char result=str.charAt(pos);  System.out.print("Character is :: "+result);  }  } | **OUTPUT**  Enter a string : HELLO  Enter an index position : 3  Character is :: L |

**26. Write a Java Program to Replace a Character at a Specific Index.**

|  |  |
| --- | --- |
| import java.util.Scanner;  class test26  {  public static void main(String args[ ])  {  Scanner s=new Scanner(System.in);  System.out.print("Enter a string : ");  String str=s.nextLine();  System.out.print("Enter an index : ");  int id=s.nextInt();  System.out.print("Enter a character : ");  char ch=s.next().charAt(0);  if(id>=0 && id<=str.length())  {  char[ ] char\_arr=str.toCharArray( );  char\_arr[id]=ch;  String update=new String(char\_arr);  System.out.println("Original string : "+str);  System.out.println("New string : "+update);  }  else  {  System.out.println("Invalid Index");  }  }  } | **OUTPUT**  Enter a string : ben  Enter an index : 0  Enter a character : t  Original string : ben  New string : ten  Enter a string : ben  Enter an index : 4  Enter a character : t  Invalid Index |

**27. Write a Java Program to Reverse a string.**

|  |  |
| --- | --- |
| import java.util.Scanner;  class test27  {  public static void main(String args[ ])  {    Scanner s=new Scanner(System.in);  System.out.println("Enter a string : ");  String str1=s.nextLine();  String str2=" ";  int len=str1.length()-1;  for(int i=len;i>=0;i--)  {  str2=str2+str1.charAt(i);  }  System.out.println("Reverse string is :: ");  System.out.print(str2);  }  } | **OUTPUT**  Enter a string :  Hello Student  Reverse string is ::  tnedutS olleH |

**28. Write a Java Program to Sort a string.**

|  |  |
| --- | --- |
| import java.util.Arrays;  import java.util.Scanner;  class test28  {  public static void main(String args[ ])  {  Scanner s=new Scanner(System.in);  System.out.print("Enter a string : ");  String str=s.nextLine();  char[ ] ch\_arr=str.toCharArray();  Arrays.sort(ch\_arr);  System.out.println("Original string : "+str);  System.out.print("Sorted string :: ");  System.out.print(ch\_arr);  }  } | **OUTPUT**  Enter a string : opcy  Original string : opcy  Sorted string :: copy |

**29. Write a Java Program to Compare two strings.**

|  |
| --- |
| import java.util.Scanner;  class test29  {  public static void main(String args[ ])  {  Scanner s=new Scanner(System.in);  System.out.print("Enter string 1 : ");  String s1=s.nextLine();  System.out.print("Enter string 2 : ");  String s2=s.nextLine();  int result=s1.compareTo(s2);  if(result==0)  {  System.out.println("Both strings are same");  }  else  {  System.out.println("Both strings are not same");  }  }  }  **OUTPUT**  Enter string 1 : Hello  Enter string 2 : Hello  Both strings are same  Enter string 1 : Hello  Enter string 2 : hello  Both strings are not same |

**30. Write a Java Program to Print even length words.**

|  |  |
| --- | --- |
| import java.util.Scanner;  class test30  {  public static void main(String args[ ])  {  Scanner s=new Scanner(System.in);  System.out.println("Enter a string : ");  String str=s.nextLine( );  String[ ] word=str.split(" ");  System.out.println("even length words :: ");  for(int i=0;i<word.length;i++)  {  if(word[i].length()%2==0)  {  System.out.println(word[i]);  }  }  }  } | **OUTPUT**  Enter a string :  i did not understand this lesson  Even length words ::  understand  this  lesson |