**CHAROTAR UNIVERSITY OF SCIENCE & TECHNOLOGY**

**DEVANG PATEL INSTITUTE OF ADVANCE TECHNOLOGY & RESEARCH**

# Department of Computer Science & Engineering

**Subject Name: Java programming**

**Semester: III**

# Subject Code: CSE201 Academic year: 2024-25

Part - 1

|  |  |
| --- | --- |
| **No.** | **Aim of the Practical** |
| **2.**  **3.**    **4.**    **5.**        **6.** | Imagine you are developing a simple banking application where you need to display the current balance of a user account. For simplicity, let's say the current balance is $20. Write a java program to store this balance in a variable and then display it to the user.  **PROGRAM CODE:**  class demo  {  public static void main(String a[])  {  int x=20;  System.out.println("The current balance is $"+x);  }  }  **OUTPUT:**    **CONCLUSION:**  The variable is stored in x and the function println() displays its value.  Write a program to take the user for a distance (in meters) and the time taken (as three numbers: hours, minutes, seconds), and display the speed, in meters per second, kilometers per hour and miles per hour (hint:1 mile = 1609 meters).  **PROGRAM CODE:**  import java.util.Scanner;  class speed  {  public static void main(String []args)  {  Scanner s = new Scanner(System.in);    System.out.println("Enter the distance: ");  float d=s.nextFloat();    System.out.println("Enter time in hr,min,sec: ");  float hr=s.nextFloat();  float min=s.nextFloat();  float sec=s.nextFloat();    float t=(hr\*60\*60)+(min\*60)+sec;  float speed=d/t;  System.out.println("Speed in m/s is "+speed);    float sk=speed\*(18/5);  System.out.println("Speed in km/h is "+sk);    System.out.println("Speed in mi/h is "+(sk/1.609));    }  }  **OUTPUT:**    **CONCLUSION:**  We take the user’s input for distance (in meters), hours, minutes, and seconds. We calculate the total time in seconds. We compute the speed in meters per second, kilometres per hour, and miles per hour using the given formulas.  Imagine you are developing a budget tracking application. You need to calculate the total expenses for the month. Users will input their daily expenses, and the program should compute the sum of these expenses. Write a Java program to  calculate the sum of elements in an array representing daily expenses.  **PROGRAM CODE:**  import java.util.Scanner;  class budget  {  public static void main(String args[])  {  Scanner s=new Scanner(System.in);  System.out.println("Enter the number of days you want to enter the amount for: ");  int n=s.nextInt();  float a[]=new float [n];  int i,sum=0;  System.out.println("enter the values: ");  for(i=0;i<n;i++)  {  a[i]=s.nextFloat();  sum+=a[i];  }  System.out.println("Sum of the amount is "+sum);    }  }  **OUTPUT:**    **CONCLUSION:**  This program efficiently calculates the total expenses for a month based on daily inputs using an array. It demonstrates basic array handling and iteration in Java.  **Supplementary Experiment:**  You are creating a library management system. The library has two separate lists of books for fiction and non-fiction. The system should merge these lists into a single list for inventory purposes. Write a Java program to merge two  arrays.  **PROGRAM CODE:**  public class supp1  {  public static void main(String[] args)  {  int[] arr1 = { 1, 3, 4, 5, 9};  int[] arr2 = { 2, 4, 6, 8, 7};  int l1 = arr1.length;  int l2 = arr2.length;  int result = l1 + l2;    System.out.println("Array 1: ");  for(int i=0;i<l1;i++)  {  System.out.print(arr1[i]+" ");  }  System.out.println();    System.out.println("Array 2: ");  for(int i=0;i<l2;i++)  {  System.out.print(arr2[i]+" ");  }  System.out.println();  int[] mergearray = new int[result];  for(int i=0;i<l1;i++)  {  mergearray[i]=arr1[i];  mergearray[i+5]=arr2[i];  }    System.out.println("Merged Array:");  for (int i = 0; i < result; i++)  {  System.out.print(mergearray[i] + " ");  }  }  }  **OUTPUT:**    **CONCLUSION:**  Hence, we successfully merged the two arrays.  An electric appliance shop assigns code 1 to motor,2 to fan,3 to tube and 4 for wires. All other items have code 5 or more. While selling the goods, a sales tax of 8% to motor,12% to fan,5% to tube light,7.5% to wires and 3% for all other items is charged. A list containing the product code and price in two different arrays. Write a java program using switch statement to prepare the bill.  **Top of Form**  **Bottom of Form**  **PROGRAM CODE:**  import java.util.Scanner;  class app  {  public static void main(String args[])  {  Scanner s=new Scanner(System.in);  System.out.println("Enter the choice of code from the following: ");  System.out.println("1:Motor");  System.out.println("2:Fan");  System.out.println("3:Tube");  System.out.println("4:Wires");  System.out.println("5:Others");  System.out.println("6:Exit");  int ch=s.nextInt();  double price=100;  switch(ch)  {  case 1:  price+=8;  System.out.println("The total amount of motor is "+price);  break;  case 2:  price+=12;  System.out.println("The total amount of fan is "+price);  break;  case 3:  price+=5;  System.out.println("The total amount of tube is "+price);  break;  case 4:  price+=7.5;  System.out.println("The total amount of wires is "+price);  break;  case 5:  price+=3;  System.out.println("The total amount of others is "+price);  break;  default:  break;  }  }  }  **OUTPUT:**    **CONCLUSION:**  This program demonstrates how to use a switch statement in Java to calculate a bill based on product codes and prices, applying specific tax rates depending on the product type.    Create a Java program that prompts the user to enter the number of days (n) for which they want to generate their exercise routine. The program should then calculate and display the first n terms of the Fibonacci series, representing  the exercise duration for each day.  **PROGRAM CODE:**  import java.lang.\*;  import java.util.Scanner;  class fseries  {  public static void main(String []args)  {  Scanner s = new Scanner(System.in);  System.out.println("Enter the numer of days you want to work out: ");  int n=s.nextInt();  int n1=0,n2=1,i,n3;  System.out.print(n1+" "+n2);  for(i=2;i<n;i++)  {  n3=n1+n2;  System.out.print(" "+n3);  n1=n2;  n2=n3;  }  }  }  **OUTPUT:**    **CONCLUSION:**  This program successfully creates and exercise routine based on the Fibonacci series and displays the formatted output to the user.  **Supplementary Experiment:**  Imagine you are developing a classroom management system. You need to keep track of the grades of students in a class. After collecting the grades, you want to display each student's grade along with a message indicating if they have  passed or failed. Let's assume the passing grade is 50.  **PROGRAM CODE:**  import java.util.Scanner;  public class supp2  {  public static void main(String[] args)  {  Scanner scanner = new Scanner(System.in);  System.out.print("Enter the number of students: ");  int numStudents = scanner.nextInt();  int passingGrade = 50;  for (int i = 1; i <= numStudents; i++)  {  System.out.print("Enter grade for student " + i + ": ");  int studentGrade = scanner.nextInt();  if (studentGrade >= passingGrade)  {  System.out.println("Student " + i + ": Passed");  }  else  {  System.out.println("Student " + i + ": Failed");  }  }  }  }  **OUTPUT:**    **CONCLUSION:**  This Java program effectively manages and displays students' grades along with their pass/fail status based on a predefined passing grade condition.  **Top of Form**  **Bottom of Form** |