CHAROTAR UNIVERSITY OF SCIENCE TECHNOLOGY

DEVANG PATEL INSTITUTE OF ADVANCE TECHNOLOGY & RESEARCH

Department of Computer Science & Engineering

Subject Name: Java Programming

Semester: 3rd

Subject Code: CSE201

Academic year: 2024

SET-1

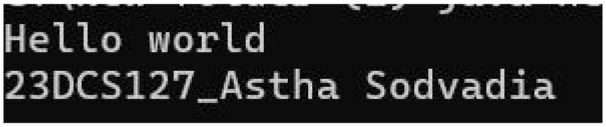
No. | **Aim of the Practical**

1. Demonstration of installation steps of Java,Introduction to Object Oriented Concepts, comparison of Java with other object-oriented programming languages. Introduction to JDK, JRE, JVM, Javadoc, command line argument. Introduction to Eclipse or NetBeans IDE,or BlueJ and Console Programming.

PROGRAM CODE :

```
class hello
{
public static void main(String[] args)
{
System.out.println("Hello world");
System.out.println("23DCS127_Astha Sodvadia");
}
}
```

OUTPUT:



```
Hello world
23DCS127_Astha Sodvadia
```

CONCLUSION:

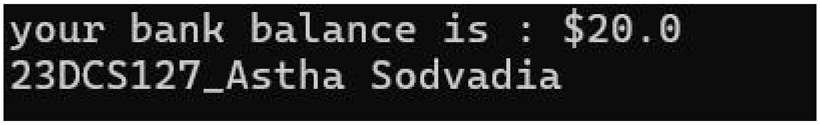
It’s a basic program to display Hello, World!.

2. 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 :

```
public class bank
{
public static void main(String[] args)
{
double balance = 20.00;
System.out.println("your bank balance is : $"+balance);
System.out.println("23DCS127_Astha Sodvadia");

}
}
```

OUTPUT:



```
your bank balance is : $20.0
23DCS127_Astha Sodvadia
```

CONCLUSION:

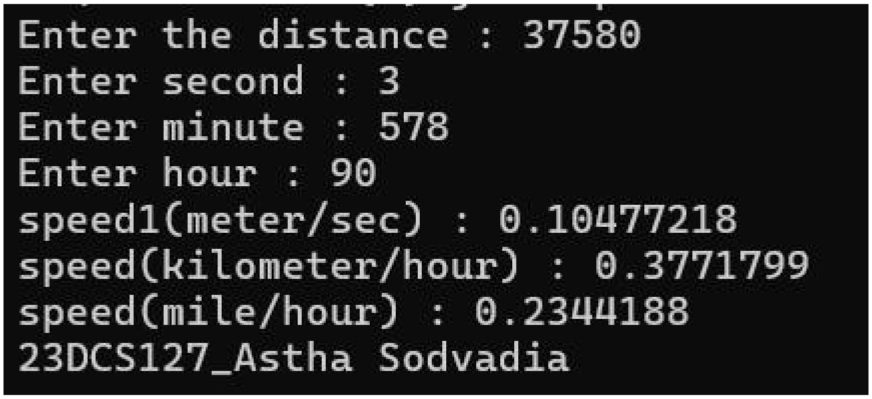
This program demonstrates how to store and display a user's current balance in a banking application. This simple example can be expanded upon to include more features of a real banking application, such as transactions, account management, and security features.

3. 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;
public class speed
{
public static void main(String[] args)
{
Scanner sc = new Scanner(System.in);

System.out.print("Enter the distance : ");
float d = sc.nextFloat();

System.out.print("Enter second : ");
float s = sc.nextFloat();
System.out.print("Enter minute : ");
float m = sc.nextFloat();

System.out.print("Enter hour : ");
float h = sc.nextFloat();

float totalsec,totalhr,km,mile,sp1,sp2,sp3;
totalsec = (h*3600) + (m*60) + s;
totalhr = h + (m/60) + (s/3600);
km = d/1000;
mile = d/1609;
sp1 = d/totalsec;
sp2 = km/totalhr;
sp3 = mile/totalhr;

System.out.println("speed1(meter/sec) : " +sp1);
System.out.println("speed(kilometer/hour) : " +sp2);
System.out.println("speed(mile/hour) : " +sp3);
System.out.println("23DCS127_Astha Sodvadia");
}
}
```

OUTPUT:



```
Enter the distance : 37580
Enter second : 3
Enter minute : 578
Enter hour : 90
speed1(meter/sec) : 0.10477218
speed(kilometer/hour) : 0.3771799
speed(mile/hour) : 0.2344188
23DCS127_Astha Sodvadia
```

CONCLUSION:

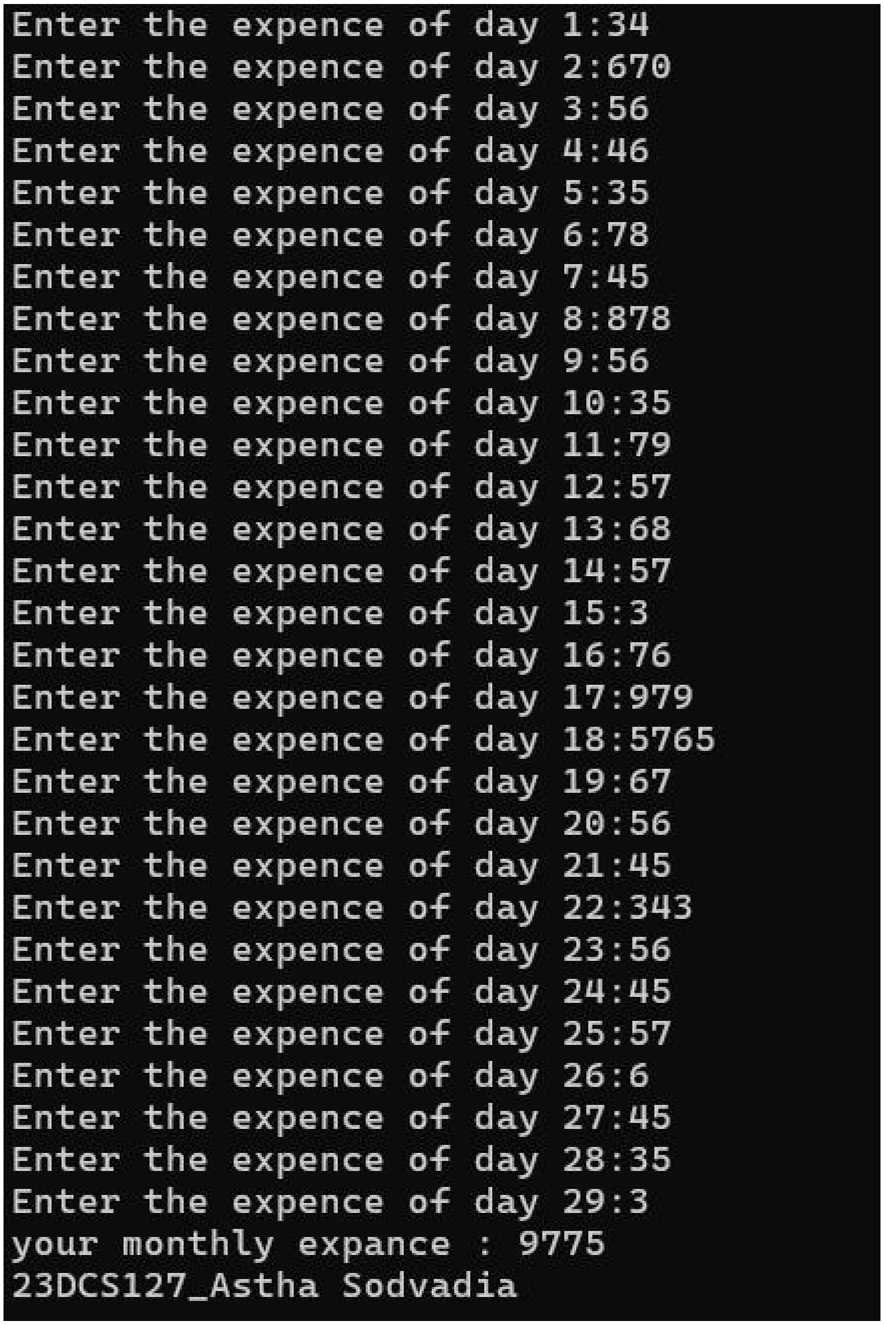
This program explain that how to take user input for distance and time, compute the speed in different units, and display the results. It utilizes basic arithmetic operations and unit conversions to achieve this functionality.

4. 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;
public class budget
{
public static void main(String[] args)
{
int arr[]=new int [30];
Scanner sc = new Scanner(System.in);
int sum =0;
int i;

for(i=1;i<30;i++)
{
        System.out.print("Enter the expence of day " +i + ":");
        arr[i]=sc.nextInt();
        sum=sum+arr[i];
}

System.out.println("your monthly expance : " +sum);
System.out.print("23DCS127_Astha Sodvadia");
}
}
```

OUTPUT:



```
Enter the expence of day 1:34
Enter the expence of day 2:670
Enter the expence of day 3:56
Enter the expence of day 4:46
Enter the expence of day 5:35
Enter the expence of day 6:78
Enter the expence of day 7:45
Enter the expence of day 8:878
Enter the expence of day 9:56
Enter the expence of day 10:35
Enter the expence of day 11:79
Enter the expence of day 12:57
Enter the expence of day 13:68
Enter the expence of day 14:57
Enter the expence of day 15:3
Enter the expence of day 16:76
Enter the expence of day 17:979
Enter the expence of day 18:5765
Enter the expence of day 19:67
Enter the expence of day 20:56
Enter the expence of day 21:45
Enter the expence of day 22:343
Enter the expence of day 23:56
Enter the expence of day 24:45
Enter the expence of day 25:57
Enter the expence of day 26:6
Enter the expence of day 27:45
Enter the expence of day 28:35
Enter the expence of day 29:3
your monthly expance : 9775
23DCS127_Astha Sodvadia
```

CONCLUSION:

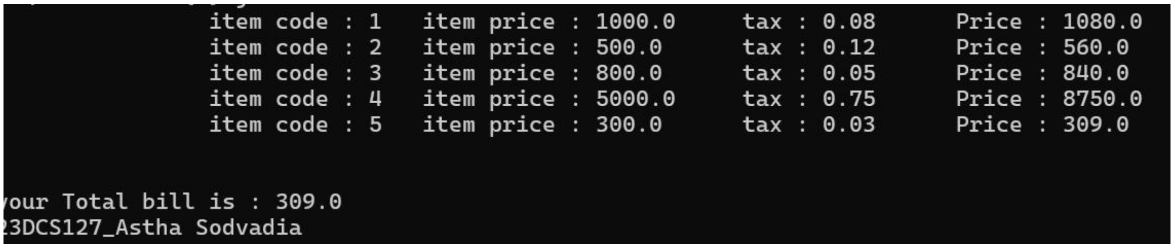
This Java program explain that how to use arrays to store and calculate the total expenses for a given month based on daily inputs from the user. It utilizes loops to iterate through each day's expenses and accumulate the total, providing a practical solution for a budget tracking application.

5. 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.

PROGRAM CODE :

```
import java.util.Scanner;
public class tax
{
public static void main(String[] args)
{
int[] item = {1,2,3,4,5};
double[] price = {1000,500,800,5000,300};
double tax=0 ;
double finalprice=0;
for(int i =0;i<item.length;i++)
{
//price = price[i];

switch(item[i])
{
case 1:
tax = 0.08;
break;

case 2:
tax = 0.12;
break;

case 3:
tax = 0.05;
break;

case 4 :
tax = 0.75;
break;

default :
tax = 0.03;
break;
}
double totaltax = price[i]*tax;
finalprice = price[i]+ totaltax;
System.out.print("\t\titem code : "+ item[i] );
System.out.print("\titem price : "+ price[i] );
System.out.print("\ttax : "+ tax);
System.out.println("\tPrice : "+finalprice);
}
double totalbill=0;
totalbill = totalbill + finalprice;

System.out.println("\n\nyour Total bill is : "+totalbill);
System.out.println("23DCS127_Astha Sodvadia");
}
}
```

OUTPUT:



```
               item code : 1   item price : 1000.0     tax : 0.08      Price : 1080.0
               item code : 2   item price : 500.0      tax : 0.12      Price : 560.0
               item code : 3   item price : 800.0      tax : 0.05      Price : 840.0
               item code : 4   item price : 5000.0     tax : 0.75      Price : 8750.0
               item code : 5   item price : 300.0      tax : 0.03      Price : 309.0


our Total bill is : 309.0
3DCS127_Astha Sodvadia
```

CONCLUSION:

This Java program uses arrays, loops, and a switch statement to handle the calculation of a bill for an electric appliance shop, applying different sales tax rates based on the product code. It explain how to process user input, perform calculations, and display the results, essential functionalities for a billing system in a retail environment.

6.

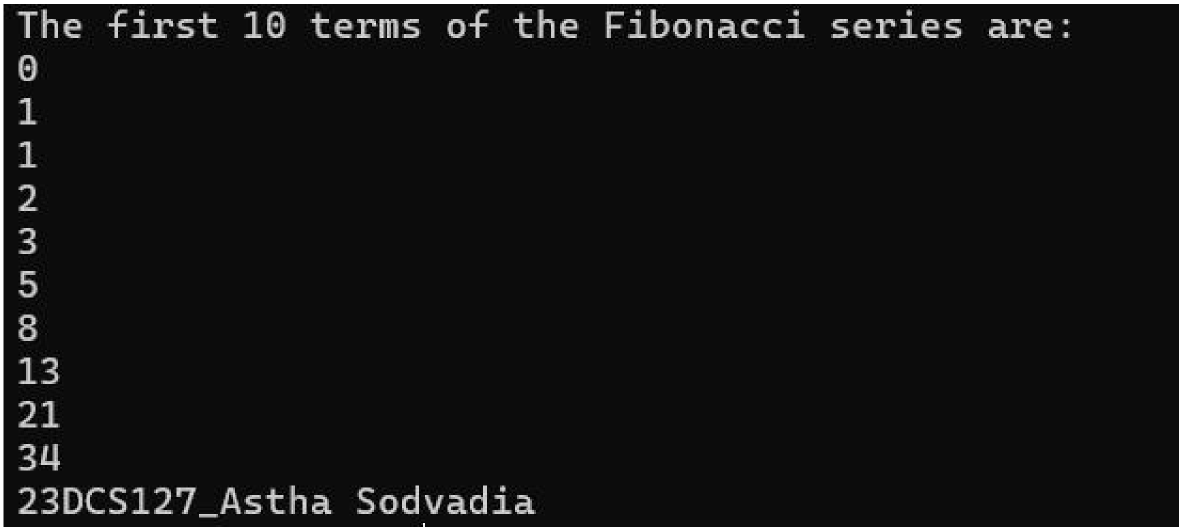
Create a Java program that prompts the user to enter the number of days (n) for which they want to generate their exercise routine. The program should then calculate and display the first n terms of the Fibonacci series, representing the exercise duration for each day.

PROGRAM CODE :

```
import java.util.Scanner;

public class exercise{

    public static void main(String[] args) {
    Scanner scanner = new Scanner(System.in);

        System.out.print("Enter the number of days for your exercise routine: ");
        int n = scanner.nextInt();

             if (n <= 0)
            {
            System.out.println("Number of days must be a positive integer.");
        } else {
            System.out.println("The first " + n + " terms of the Fibonacci series
are:");
            printFibonacciSeries(n);
        }

        scanner.close();
    }

       private static void printFibonacciSeries(int n) {
        if (n == 1) {
            System.out.println("0");
            return;
        } else if (n == 2) {
            System.out.println("0");
            System.out.println("1");
            return;
        }

          int first = 0, second = 1;

         System.out.println(first);
        System.out.println(second);
```

```
             for (int i = 2; i < n; i++)
           {
            int next = first + second;
            System.out.println(next);
            first = second;
            second = next;
        }
System.out.print("23DCS127_Astha Sodvadia");
    }
}
```

OUTPUT:



```
The first 10 terms of the Fibonacci series are:
0
1
1
2
3
5
8
13
21
34
23DCS127_Astha Sodvadia
```

CONCLUSION:

This Java program generates an exercise routine based on the Fibonacci series, where each term represents the exercise duration for each day up to the specified number of days (n). It demonstrates basic looping, variable manipulation, and user input handling.