**INDEX**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sl No.** | **Experiment Name** | **Page No.** | **Date** |
| **Basic programs using datatypes, operators and control statements** | | | |
| **1** | String Palindrome |  |  |
| **2** | Reverse a given string |  |  |
| **3** | Frequency of a given character in a string |  |  |
| **4** | Multiply two matrices |  |  |
| **5** | Transpose of a matrix |  |  |
| **6** | second smallest element in an array |  |  |
| **7** | Prime number or not |  |  |
| **Object Oriented Concepts** | | | |
| **8** | Area of different shapes |  |  |
| **9** | Area and perimeter of rectangle |  |  |
| **10** | Complex number arithmetic |  |  |
| **11** | Addition of two Time objects |  |  |
| **12** | Bank account manipulation |  |  |
| **Inheritance, method overloading and overriding, Polymorphism** | | | |
| **13** | Employee details |  |  |
| **14** | Inheritance on Employee and Engineer classes |  |  |
| **15** | Multilevel Inheritance |  |  |
| **16** | Abstract Class of Shapes |  |  |
| **17** | Geometric shapes and Operations |  |  |
| **18** | Interface Inheritance -I |  |  |
| **19** | Interface Inheritance -II |  |  |
| **Input-Output, File Management and exception handling** | | | |
| **20** | Merge data from two files into a third file |  |  |
| **21** | Merge data from two files into a third file line by line |  |  |
| **22** | Minimum, maximum, average and range of real numbers in a file |  |  |
| **23** | Line numbering in a file |  |  |
| **24** | Sum of all integers using StringTokenizer class |  |  |
| **25** | Number of characters, lines and words in a text file |  |  |
| **26** | Student class to handle exceptions |  |  |
| **27** | Commission of sales |  |  |
| **Multithreading** | | | |
| **28** | Creation of threads |  |  |
| **29** | Thread priorities |  |  |
| **30** | Multithreading application |  |  |
| **31** | Threads using runnable interface |  |  |
| **32** | Banking operation using multiple threads and synchronization |  |  |
| **Graphics programming** | | | |
| **33** | Simple Calculator |  |  |
| **34** | Traffic light Simulation |  |  |
| **Collection framework** | | | |
| **35** | Linked list operations |  |  |
| **36** | Quick Sort Algorithm |  |  |

**Date: Experiment No-1**

**Name of the Experiment**

**Aim:** To implement a java program (write questions as it is)

**Algorithm**

1.

2.

3.

(Implementation and output should be in printed form)

**Implementation (should take print out)**

/\* Roll No:

Name:

Name of the Experiment: \*/

**Sample Input and Output(should take printout)**

**Result:** Program is executed successfully and result is verified for all the test cases.

**Date: 10/04/21 Experiment No-8**

**AREA OF DIFFERENT SHAPES**

**Aim:** To implement a java program to calculate the area of different shapes namely circle, rectangle, trapezoid and triangle. (Use the concepts of JAVA like *this* keyword, constructor overloading and method overloading)

**Algorithm**

1.

2.

3.

**Implementation**

/\* Roll No: B20CSB01

Name: Anas A

Name of the Experiment: Area of Different shapes \*/

class FindArea

{

double Area(int r)

{

return 3.14\*r\*r;

}

double Area(int len, int wid)

{

return len\*wid;

}

double Area(double b, double h)

{

return ((b\*h)/2);

}

double Area(double A, double B, double H)

{

return(((A+B)/2)\*H);

}

}

public class Main

{

public static void main(String []args)

{

FindArea f1 = new FindArea();

FindArea f2 = new FindArea(); //rectangle

FindArea f3 = new FindArea(); //triangle

FindArea f4 = new FindArea(); //trapezoid

int r=5,len=5,wid=6;

double b=4.5,h=4.5,A=6,B=5.5,H=7.0;

double a;

a = f1.Area(r);

System.out.println("Area of circle is: "+a+" sq meter");

a = f2.Area(len,wid);

System.out.println("Area of rectangle is: "+a+" sq meter");

a = f3.Area(b,h);

System.out.println("Area of triangle is: "+a+" sq meter");

a = f4.Area(A,B,H);

System.out.println("Area of trapezoid is: "+a+" sq meter");

}

}

**Output**

Area of circle is: 23.451

Area of rectangle is: 344.4

Area of triangle is :33.4

Area of trapezoid is: 244.3

**Result:** Program is executed successfully and result is verified for all the test cases.