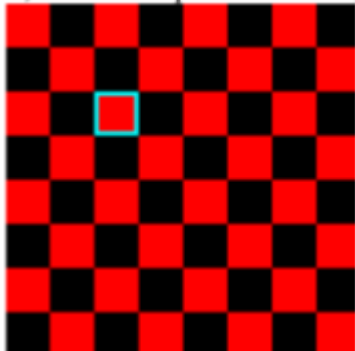


Sr. No.	Name of Practical	Hour(s)	CLO
1	Setup Java programming environment and: a) Write a program to display "Hello World". b) Write a program to define variables of all data types in java and display their values. c) Write a program to calculate area and perimeter of a circle. Take the value of radius from user (or hardcode the value of a radius).	3	CLO3
2	a) Write a program to print numbers from 1 to 10. Each number should be displayed on new line. Also calculate & print their average, standard deviation. b) Write a program to find largest and smallest number in an array.	2	CLO3
3	a) Write a program to find all the even numbers between 1 and given number. b) Write a program to find number of vowels, consonants and digits from an entered string using switch case.	2	CLO3
4	Create a class Complex to represent a complex number. Class has one default constructor and one parameterized constructor with two arguments and add function to add two complex number which will take object of the class as an argument and return object of the class as a result. When a complex number object is printed, it should display the complex number in proper format. The output should be displayed as follows:- Sum of $a1+b1i$ & $a2+b2i$ is : $a3+b3i$ (Passing objects to methods).	2	CLO1 CLO3
5	Write a program to perform following operations on string "Nirma University" a) Reverse the string b) Replace character Ni with Ab c) Check whether strings "rma" and "Uni" present in original string or not d) Compare this program implementation using String and StringBuffer methods.	2	CLO1 CLO3
6	Consider an example of declaring the examination result. Design three classes: Student, Exam, and Result. The Student class has data members such as those representing roll number, name etc. Create the class Exam by inheriting the Student class. The Exam class adds fields representing the marks scored in six subjects. Derive the Result from the Exam class and it has its own fields such as total_Marks. Write an interactive program to model this relationship.	2	CLO1 CLO3
7	An interface Polygon containing the members as given below: float area, float perimeter void calcArea(); abstract method to calculate area of a particular polygon given its dimensions void calcPeri(); abstract method to calculate perimeter of a particular polygon given its dimensions	2	CLO1 CLO3

	<p>void display(); method to display the area and perimeter of the given polygon</p> <p>Create a class Square that implements Polygon and has the following member:</p> <p>float side</p> <p>Square(float s); constructor to initialize side of square</p> <p>Create another class Rectangle that implements Polygon and has the following member:</p> <p>float length</p> <p>float breadth</p> <p>Rectangle(int len, int bre); constructor to initialize length and breadth of a rectangle</p> <p>Outside the package, create a class that imports the above package and instantiates an object of the Square class and an object of the Rectangle class. Call the above methods on each of the classes to calculate the area and perimeter given the side and the length/breadth of the Square class and the Rectangle class respectively.</p>		
8	<p>a) Write an interactive program to compute the square root of a number. The input values must be tested for validity. If it is negative then user defined method MYSQRT() should raise an exception.</p> <p>b) Write a JAVA program that simulates the action of several bank customers who make deposits to a shared account. Use concept of multithreading and synchronization.</p> <p>c) Create thread t1 and t2. Set priority of main thread to 10, t1 to normal priority +2 and t2 to normal priority -2</p> <p>d) Write a Java application that will accept two filenames (text files) as command line arguments and use two threads to read and display contents from the two text files.</p>	8	CLO3
9	<p>a) Write a program in Java to copy the contents of one file to other.</p> <p>b) Create a class "CDR" with the following members: A_Number, B_Number, duration, calculatedCharge</p> <p>Write a program which will accept the A_Number, B_Number and duration of Call from user (Duration is in minutes). Rate that call using 1 Rupee per min rate and store the calculated charge in "calculatedCharge.txt" file.</p> <p>Note: CDR means Call Details Record</p>	3	CLO3
10	<p>a) Create an applet that draws a circle every time the mouse button is clicked. The position where the mouse is clicked will become the center of the circle. Set the radius of the circle to 100 pixels.</p> <p>b) Write an applet that displays 13 vertical colors bars that correspond to the constants defined by Color class.</p>	4	CLO3
11*	Write a GUI program that draws a checkerboard. Assume that the size of the drawing area is 400-by-400 pixels. A checkerboard	2	CLO3

	<p>contains 8 rows and 8 columns of squares each of same size. The squares are red and black (or whatever other colors you choose). Here is a tricky way to determine whether a given square should be red or black: The rows and columns can be thought of as numbered from 0 to 7. If the row number of the square and the column number of the square are either both even or both odd, then the square is red. Otherwise, it is black. Write a program where the user can select a square by clicking on it. Highlight the selected square by drawing a colored border around it. When the program starts, no square is selected. When the user clicks on a square that is not currently selected, it becomes selected (and the previously selected square, if any, is unselected). If the user clicks the square that is selected, it becomes unselected. Assume that the size of the panel is exactly 160 by 160 pixels, so that each square on the checkerboard is 20 by 20 pixels. Here is the checkerboard, with the square in row 3, column 3 selected.</p> 		
12*	<p>a) An organization provides various computer courses like C, C++, Java, networking etc. user can register online for these courses. Design a form for online registration for these courses where user will enter name, mobile number, email id and also he can select the courses for which he wants to register. User can select more than one courses. When user click on register button the message “registration successful” should be displayed at the bottom. Also perform required validations.</p> <p>b) Write console based networking application as follows: Write client Application which should send hello to server. Server application should accept client request and it should send welcome client message to client application.</p>	4	CLO1 CLO2 CLO3
13*	<p>a) Implement vector class for this problem</p> <p>i. Create an Employee class which will have details like EmployeeNo, EmployeeName and Address. You should pass value for EmployeeNo, EmployeeName and Address through constructor. ii. Create a method addInput() which will add employee details to vector. iii. Create method display() which should display all data from vector using Enumeration.</p>	3	CLO1 CLO2 CLO3

	<p>b) Create a Product class with Product Id & Product Name. Write a program to accept information of 10 products and store that in Hash Table. Search a particular product in the Hash Table. Remove a particular product id and product name from the Hash Table. The product list is as follows:</p> <table><tr><th>Product Id</th><th>Product Name</th></tr><tr><td>P001</td><td>Maruti800</td></tr><tr><td>P002</td><td>MarutiZen</td></tr><tr><td>P003</td><td>MarutiEsteem</td></tr></table>	Product Id	Product Name	P001	Maruti800	P002	MarutiZen	P003	MarutiEsteem		
Product Id	Product Name										
P001	Maruti800										
P002	MarutiZen										
P003	MarutiEsteem										
	Total Hours:	39									