

**DEPARTMENT OF COMPUTER SCIENCE
RAJAGIRI COLLEGE OF SOCIAL SCIENCES
(Autonomous)**



**M.Sc. COMPUTER SCIENCE
(Data Analytics)**

**JAVA PROGRAMMING LAB
CSDA 206
LAB RECORD**

NAME : BALU S UNNY

SEMESTER : SECOND

REGISTER NO : 2217013



**DEPARTMENT OF COMPUTER SCIENCE
RAJAGIRI COLLEGE OF SOCIAL SCIENCES
(Autonomous)**

M.Sc. COMPUTER SCIENCE (Data Analytics)

CERTIFICATE

NAME : BALU S UNNY
SEMESTER : SECOND
REGISTER NO : 2217013

*Certified that this is a bonafide record of work done by **BALU S UNNY** MSCCS2211 in the Software Laboratory of Rajagiri Department of Computer Science, Kalamassery.*

Fr. Angelo Baby
Faculty in Charge

Dr. Bindiya M Varghese
Dean, Computer Science

Internal Examiner

External Examiner

Place : Kalamassery

Date :

Table of Contents**Page No**

1.	Write a program to print your name	1
2.	Write a program to display two numbers received as command line argument, and print its product	2
3.	Write a program to display two strings received as command line arguments	3
4.	Write a program to read two numbers and display the output in the form of 'Sum of 2 and 3 is 5	4
5.	Write a program to accept two numbers from the keyboard and swap them.	5
6.	WAP to read three numbers and the find maximum	6
7.	Find the minimum of three numbers using a single statement	7
8.	WAP to search for a given element in an array.	8
9.	WAP to sort elements in an array in ascending order.	10
10.	Write a program to print the row wise and column wise sum of a 2D array.	12
11.	WAP with two functions to check for an integer palindrome.	14
12.	WAP to display numbers from m to n using a single while loop. (eg: m=2, n=8 - randomly given numbers)	15
13.	WAP to find the sum of the series $1+(1+2)+(1+2+3)+(1+2+3+\dots+n)$ using a single while loop.	16
14.	WAP to find the sum of $1+2/2!+3/3!+4/4!+\dots+n/n!$ using a single for loop.	17
15.	WAP to calculate the area of a circle (method with no argument and no return type. // use the concept of constructors by passing arguments	18
16.	WAP to calculate sum of n even numbers (method with no argument and return type.)	19
17.	WAP to reverse a number (method with argument and no return type.)	20
18.	WAP to calculate the sum of digits of a number (method with argument and return type.)	21
19.	A function takes 2 arguments and returns the maximum. Use this function for finding max of 3 numbers. (use both the concepts of method overloading and reusability)	22
20.	WAP to find the factorial of n, using recursion.	24

21.	WAP to display numbers from n to 1 and vice versa, using recursion.	25
22.	Create a class complex having a real and imaginary part. Provide functions for read, display ,add and multiplying two complex numbers	27
23.	Program to explain static keyword with different usage including function	29
24.	WAP to display even numbers upto 'n' using a static function	30
25.	WAP (menu driven) to demonstrate method overriding in java, by displaying details of a student, and a teacher	31
26.	Create a class for employees having eno,ename and esal as data members. Provide functions for reading and displaying employee details. (Accept information of n employees in the main function, display the same and search for an emp (using eno)).	34
27.	Program to implement ISA and HASA relationship.	37
28.	Program to overcome function overriding in java	39
29.	Program to implement run time polymorphism in Java using Interface, wrt calculating area of a triangle.	40
30.	Create an interface Shape having two prototypes disp() and calc(), to display the shape and calculate area respectively. Create two classes: circle and rectangle which implements the above interface. In the main function create a reference of Shape depending on the user-choice.	41
31.	WAP to implement a function using call by value to swap two float numbers.	44
32.	WAP to implement a function using call by reference to find the square root of a given number.	45
33.	Create a class for Cstring having a string data member and provide functions for read, display, compare (return Boolean value), add and concatenate.	46
34.	Write a program to implement object cloning for the class Distance which has inch and feet as data members.	48
35.	Write a menu driven program for performing the following operations. 1. Length of a given string 2. Compare for equality 3. Extract a substring from a string. 4. Convert to uppercase and lowercase	49

36.	Write a program to reverse a string	52
37.	Write a program to calculate the prime factors of a given number, using packages.	54
38.	Read numbers into an array. Perform validations using multiple catch statements / predefined Exceptions.	55
39.	Write a program to implement a user defined Exception, which will throw an Exception when a given number is prime.	56
40.	Write a program to implement throw and finally.	58
41.	Write a program to create multiple threads by extending the Thread class.	59
42.	Write a program to implement threads by implementing the Runnable interface.	61
43.	Write a program to implement Synchronization using inter-thread communication.	63
44.	Implement the Producer- Consumer Problem, using Threads.	65
45.	Write a program to display the contents of a directory by displaying the subdirectory's name first, then the file names.	67
46.	Write a program to search for a given file name in a directory	69
47.	Write a program to search for a given string in a file.	71
48.	Write a program to find the number of characters, number of words and number of lines in a given file	72
49.	Write a program to accept two filenames, copy the content from the first file to the second file	73
50.	Write a menu driven program to demonstrate Random Access File handling, with options for creating, deleting, writing, appending and reading the file.	75
51.	Write a program to implement a Generic method, which can display the elements of various arrays of different data types, and find the length of each array.	79
52.	Write a program to implement a Generic class, and display the types of various parameters passed	81
53.	Program to implement Serialization and DeSerialization, for an object of Student Class	82
54.	Program to implement IS A Serialization and DeSerialization, for a Maruti Car inherited from Vehicle	84
55.	Write a program to implement HAS-A Serialization and De-Serialization for the Engine of a Vehicle.	86

56.	Write a program to Serialize/De-Serialize selected attributes of an Employee.	88
57.	Write a program to implement various methods of a StringBuffer class. Eg:length of a string, capacity of a string, append a string, insert and its various options, delete and its various options, reverse, replace etc.	90
58.	Write a program to implement communication between a client and server via Socket Programming	93
59.	Write a program to implement one-one chatting using the TCP protocol	95
60.	Write a program to implement public chatting.	98
61.	Write a program to get the protocol, file name, host, path and port of a given URL.	101
62.	Write a program to download a file from a given URL	102
63.	Implement Two- way Communication using UDP Protocol.	103
64.	Write a program to create a table Citizen(Id(Primary), Name, age, address, DOB), insert records, and display the records.	105
65.	Assume that login is a table which has Uname, Upass. Check whether a record with “Uname=”Bob” and “UPass=”Alice123#”is present in the table.	107
66.	Construct the following tables: Department (dno(Primary), dname, dloc) Emp (eno(Primary), ename, esal ,dno(Foreign))	109
67.	Write a program for displaying information in the following order: <div style="display: flex; justify-content: space-between; padding: 0 10px;"> <div>eno</div> <div>ename</div> <div>esal</div> <div>dname</div> <div>dloc</div> </div> <div style="display: flex; justify-content: space-between; padding: 0 10px;"> <div>101</div> <div>Rani</div> <div>10,000</div> <div>MCA</div> <div>Kochi</div> </div> <div style="display: flex; justify-content: space-between; padding: 0 10px;"> <div>102</div> <div>Vani</div> <div>20,000</div> <div>MSW</div> <div>Delhi</div> </div>	111
68.	Write a JDBC program with Parameterized queries to update a given record (Rani’s salary to 15,000) in the Emp table.	113
69.	Write a JDBC program with Parameterized queries to list the records of the Emp table which has records whose names start with the alphabet “R”.	115
70.	Write a JDBC program with PreparedStatement to delete the records of the Emp table which has records whose salary is less than 10,000.	116
71.	Implement a JDBC program which uses a Stored Procedure to insert records into the Department table.	117

72.	Use Callable statement to implement a Stored Procedure to display the Ename and Salary of all employees.	119
73.	Write a JDBC program to implement Transaction Management in the Department table.	121
74.	Write a JDBC program to depict the usage of SQLException Class and SQLWarning Class	123