Set I (14.12.2022)

1. Write a program to print your name
2. Write a program to display two numbers received as command line argument, and print its product
3. Write a program to display two strings received as command line arguments
4. Write a program to read two numbers and display the output in the form of 'Sum of 2 and 3 is 5
5. Write a program to accept two numbers from the keyboard and swap them.

Set 2 (16.12.2022)

1. WAP to read three numbers and the find maximum
2. Find the minimum of three numbers using a single statement
3. WAP to search for a given element in an array.
4. WAP to sort elements in an array in ascending order.
5. Write a program to print the row wise and column wise sum of a 2D array.

Set 3 (21.12.2022)

1. WAP with two functions to check for an integer palindrome.
2. WAP to display numbers from m to n using a single while loop. (eg: m=2, n=8 - randomly given numbers)
3. WAP to find the sum of the series 1+(1+2)+(1+2+3)+(1+2+3+…+n) using a single while loop.
4. WAP to find the sum of 1+2/2!+3/3!+4/4!++n/n! using a single for loop.
5. WAP to calculate the area of a circle (method with no argument and no return type. // use the concept of constructors by passing arguments
6. WAP to calculate sum of n even numbers (method with no argument and return type.)
7. WAP to reverse a number (method with argument and no return type.)
8. WAP to calculate the sum of digits of a number (method with argument and return type.)

Set 4 (04.01.2023)

1. 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)
2. WAP to find the factorial of n, using recursion.
3. WAP to display numbers from n to 1 and vice versa, using recursion.
4. Create a class complex having a real and imaginary part. Provide functions for read, display ,add and multiplying two complex numbers
5. Program to explain static keyword with different usage including function
6. WAP to display even numbers upto 'n' using a static function

Set 5 (06.01.2023)

1. WAP (menu driven) to demonstrate method overriding in java, by displaying details of a student, and a teacher
2. 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)).

Set 6 (11.01.2023)

1. Program to implement ISA and HASA relationship.
2. Program to overcome function overriding in java
3. Program to implement run time polymorphism in Java using Interface, wrt calculating area of a triangle.
4. 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.
5. WAP to implement a function using call by value to swap two float numbers.
6. WAP to implement a function using call by reference to find the square root of a given number.

Set 7 (13.01.2023)

1. Create a class for Cstring having a string data member and provide functions for read, display, compare (return Boolean value), add and concatenate.

2. Write a program to implement object cloning for the class Distance which has inch and feet as data members.
3. Write a menu driven program for performing the following operations.
    a. Length of a given string
    b. Compare for equality
    c. Extract a substring from a string.
    d. Convert to uppercase and lowercase
4. Write a program to reverse a string
5. Write a program to calculate the prime factors of a given number, using packages.

Set 8 (18.01.2023)

1. Read numbers into an array. Perform validations using multiple catch statements / predefined Exceptions.
2. Write a program to implement a user defined Exception, which will throw an Exception when a given number is prime.
3. Write a program to implement throw and finally.

Set 9 (20.01.2023)

1. Write a program to create multiple threads by extending the Thread class.
2. Write a program to implement threads by implementing the Runnable interface.
3. Write a program to implement Synchronization using inter-thread communication.
4. Implement the Producer- Consumer Problem, using Threads.

Set 10 (25.01.2023)

1. Write a program to display the contents of a directory by displaying the subdirectory's name first, then the file names.
2. Write a program to search for a given file name in a directory
3. Write a program to search for a given string in a file.
4. Write a program to find the number of characters, number of words and number of lines in a given file

5. Write a program to accept two filenames, copy the content from the first file to the second file

Section 11 (27.01.2023)

1. Write a menu driven program to demonstrate Random Access File handling, with options for creating, deleting, writing, appending and reading the file.
2. 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.
3. Write a program to implement a Generic class, and display the types of various parameters passed

Section 12 (03.02.2023)

1. Program to implement Serialization and DeSerialization, for an object of Student Class
2. Program to implement IS A Serialization and DeSerialization, for a Maruti Car inherited from Vehicle
3. Write a program to implement HAS-A Serialization and De- Serialization for the Engine of a Vehicle.
4. Write a program to Serialize/De-Serialize selected attributes of an Employee.

Section 13 (08.02.2023)

1. 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.

2. Write a program to implement communication between a client and server client, via Socket Programming

Section 14 (15.02.2023)

1. Write a program to implement one-one chatting using the TCP protocol
2. Write a program to implement public chatting.

Section 15 **(17.02.2023)**

1. Write a program to get the protocol, file name, host, path and port of a given URL.
2. Write a program to download a file from a given URL
3. Implement Two- way Communication using UDP Protocol.

Section 16 **(22.02.2023)**

1. Write a program to create a table Citizen(Id(Primary), Name, age, address, DOB), insert records, and display the records.
2. 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.

Section 17 **(24.02.2023)**

1. Construct the following tables:

   Department (dno(Primary), dname, dloc)

   Emp (eno(Primary), ename, esal ,dno(Foreign))

2. Write a program for displaying information in the following order:

eno	ename	esal	dname	dloc
101	Rani	10,000	MCA	Kochi
102	Vani	20,000	MSW	Delhi