COLLEGE OF APPLIED BUSINESS AND TECHNOLOGY

Gangahity, Chabahil, Kathmandu

Laboratory Assignment Log Sheet of B.SC. CSIT 7th Semester

Subject: CSC 409: Advanced Java Programming

S.No	Tasks	Signature
1.	**Create a program to accept 10 integers from the user, store them in an array, and calculate their sum and average using a for-each loop.**	
2.	**Write a program with an interface Shape containing methods area() and perimeter(). Implement it in two classes, Circle and Rectangle. Include an inner class to calculate diagonal for the Rectangle.**	
3.	**Design a base class Employee with attributes name and salary, and a derived class Manager with additional attributes department. Override a method displayDetails() in both classes.**	
4.	**Write a program that prompts the user to enter two integers and performs division. Handle exceptions for invalid inputs (e.g., non-numeric input) and division by zero.**	
5.	**Create a program where multiple threads update a shared counter. Use synchronization to ensure thread-safe operations.**	
6.	**Write a program to create three threads with different priorities and observe their execution order.**	
7.	**Write a program to copy the contents of one file to another using byte streams.**	
8.	**Create a program to read from a text file and write its content to another file, line by line.**	

9.	**Write a program to demonstrate the use of RandomAccessFile by writing data to a file at specific positions and reading it back.**	
10.	**Create a Java Applet that displays a "Hello, World!" message.**	
11.	**Create a Swing application with components like JButton, JLabel, and JTextField added to a JPanel, which is then added to a JFrame.**	
12.	**Create a GUI application to demonstrate FlowLayout by adding buttons in a flow.**	
13.	**Design a calculator-like GUI using BorderLayout with buttons at different positions (NORTH, SOUTH, EAST, WEST, and CENTER).**	
14.	**Create a GUI with a GridLayout that displays a 3x3 grid of buttons labeled 1 to 9.**	
15.	**Implement a GridBagLayout to arrange components with varying sizes and positions.**	
16.	**Create a form with JTextField, JPasswordField, and JTextArea. Add validation to ensure non-empty inputs.**	
17.	**Create a GUI with a JCheckBox and JRadioButton to select favorite programming languages. Show the selected options on a JLabel.**	
18.	**Create a menu bar with menus for "File" and "Edit." Add menu items such as "Open," "Save," and "Exit." Enable and disable them programmatically.**	
19.	**Add a button to open a color chooser dialog. Change the background color of a panel based on the selected color.**	
20.	**Implement a mouse listener using an adapter class to handle mouse events like mouseClicked() and mouseEntered().**	

21.	**Write a program that shows a confirmation dialog when the user attempts to close the window.**	
22.	**Create a GUI with checkboxes for hobbies. Display the selected hobbies in real time.**	
23.	**Write a program to connect to a MySQL/PostgreSQL database and display the database metadata.**	
24.	**Write a program to insert, update, and delete records from the Students table.**	
25.	**Create a program that fetches student records in both forward and reverse directions using scrollable result sets.**	
26.	**Write a program to perform a transaction with multiple SQL statements. Rollback the transaction in case of an error.**	
27.	**Demonstrate the use of CachedRowSet to fetch data from a database and update it offline.**	
28.	**Use the InetAddress class to find the hostname and IP address of a given domain name.**	
29.	**Create a client-server application where the client sends a message, and the server responds with a reversed version of the message.**	
30.	**Implement a UDP-based program where the client sends a number, and the server responds with its square.**	
31.	**Create a program to download and save an image file from a given URL.**	

32.	**Implement a program to connect to a mail server and fetch emails from the inbox.**	
33.	**Create a simple login form using JavaFX.**	
34.	**Design a GUI with a FlowPane to arrange buttons and a BorderPane to place a menu bar at the top and buttons at the center.**	
35.	**Design a calculator interface using a GridPane layout.**	
36.	**Implement a program that allows the user to choose a file and display its absolute path in a TextField.**	
37.	**Create a servlet that uses cookies to store user preferences and a session to manage login information.**	
38.	**Create a JSP page and servlet that insert, update, delete and fetches data from a database and displays it in an HTML table.**	
39.	**Create an RMI application where the client sends a number, and the server responds with its factorial.**	
40.	**Write and execute a CORBA program using IDL to define the interface and implement the server and client.**	