



INSTITUTE OF MANAGEMENT STUDIES
Recognised by UGC & Affiliated to CCS University, Meerut
GRADE 'A' INSTITUTE BY UGC-NAAC

School of IT
Institute of Management Studies – Noida



BCA 2025-2026
Java Programming and Dynamic Web Page Design
Assignment (BCA-502)

Submitted To:
Prof. Anushrav Mudgal

Submitted by: Joy Clarence
Roll No.....230919000265

Answer 1.

```
class Student {  
    String name;  
    int rollNo;  
  
    Student(String name, int rollNo)  
    {  
        this.name = name;  
        this.rollNo = rollNo;  
    }  
  
    void display() {  
        System.out.println("Name: " + name + ", Roll No: " + rollNo);  
    }  
}  
  
class BCASStudent extends Student {  
    int semester;  
  
    BCASStudent(String name, int rollNo, int semester) {  
        super(name, rollNo);  
        this.semester = semester;  
    }  
  
    void display() {  
        System.out.println("Name: " + name + ", Roll No: " + rollNo + ", Semester: "  
    }  
}
```

```
+ semester);  
    }  
}  
  
public class Main {  
    public static void main(String[] args) {  
        BCAStudent[] students = new BCAStudent[3];  
  
        students[0] = new BCAStudent("Pranjal", 45, 1);  
        students[1] = new BCAStudent("Naval", 32, 2);  
        students[2] = new BCAStudent("Joy", 21, 3);  
        System.out.println("BCA Student Details:");  
        for (int i = 0; i < students.length; i++) {  
            students[i].display();  
        }  
        try {  
            System.out.println("\nTrying to access invalid index...");  
            System.out.println(students[5].name); // This will cause  
            ArrayIndexOutOfBoundsException  
        }  
        catch (ArrayIndexOutOfBoundsException e) {  
            System.out.println("Exception caught: " + e);  
        }  
        catch (NumberFormatException e) {  
            System.out.println("Number format error: " + e);  
        }  
    }  
}
```

```
        System.out.println("\nProgram executed successfully!");

    }

}
```

Output :

```
BCA Student Details:  
Name: Pranjal, Roll No: 45, Semester: 1  
Name: Naval, Roll No: 32, Semester: 2  
Name: Joy, Roll No: 21, Semester: 3  
  
Trying to access invalid index...  
Exception caught: java.lang.ArrayIndexOutOfBoundsException: Index 5 out of  
bounds for length 3  
  
Program executed successfully!  
  
==== Code Execution Successful ===
```

Answer 2.

```
import java.awt.*;
import java.awt.event.*;

class AWTExampleJoy extends Frame implements ActionListener {
    Label label;
    TextField textField;
    Button button;

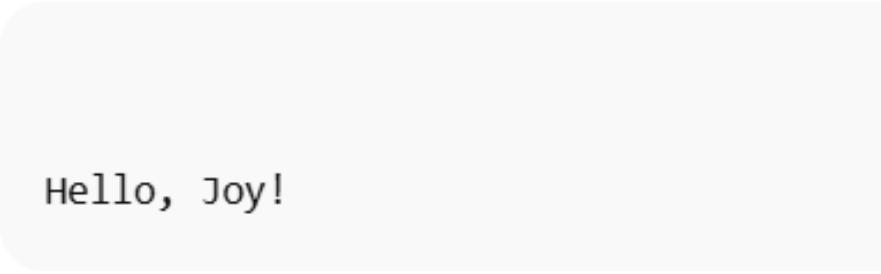
    AWTExampleJoy() {
        // Set layout manager
        setLayout(new FlowLayout());
        label = new Label("Enter your name:");
        textField = new TextField(20);
        button = new Button("Click Me");
        add(label);
        add(textField);
        add(button);
        button.addActionListener(this);
        setTitle("AWT Example - Joy");
        setSize(300, 150);
        setVisible(true);
        addWindowListener(new WindowAdapter() {
            public void windowClosing(WindowEvent e) {
                System.exit(0);
            }
        });
    }

    public void actionPerformed(ActionEvent e) {
        String name = textField.getText();
        if ("exit".equals(name)) {
            System.exit(0);
        } else {
            label.setText("Hello " + name);
        }
    }
}
```

```
        }  
    };  
}  
  
public void actionPerformed(ActionEvent e) {  
    String name = textField.getText();  
    if (name.isEmpty()) {  
        name = "Joy"; // Default name if nothing entered  
    }  
    System.out.println("Hello, " + name + "!");  
}  
public static void main(String[] args) {  
    new AWTExampleJoy();  
}  
}
```

Output:

If user types Joy and clicks the button:



Hello, Joy!

Answer 3.

```
import java.io.*;  
  
Import  
java.net.*;
```

```
public class TCPServer {  
    public static void  
        main(String[] args) throws  
        IOException { ServerSocket  
            welcomeSocket = new  
            ServerSocket(9876);  
  
            while (true) {  
                Socket connectionSocket =  
                    welcomeSocket.accept();  
                BufferedReader  
                inFromClient = new  
                BufferedReader(new  
                    InputStreamReader(connectionSocket.getInputStream()));  
                DataOutputStream outToClient = new  
                    DataOutputStream(connectionSocket.getOutputStream());  
  
                String clientSentence =  
                    inFromClient.readLine();  
                System.out.println("Received: " + clientSentence);  
  
                String capitalizedSentence =  
                    clientSentence.toUpperCase() + '\n';  
                outToClient.writeBytes(capitalizedSentence);  
            }  
        }  
}
```

```
}
```

TCPClient.jav

a Import

```
java.io*; Import
```

```
Java.net.*;
```

```
Socket connectionSocket =  
welcomeSocket.accept();  
BufferedReader  
inFromClient = new  
BufferedReader(new
```

```
InputStreamReader(connectionSocket.getInputStream()));
```

```
DataOutputStream outToClient = new  
DataOutputStream(connectionSocket.getOutputStream());
```

```
String clientSentence =  
inFromClient.readLine();  
System.out.println("Receiv  
ed: " + clientSentence);
```

```
String capitalizedSentence =  
clientSentence.toUpperCase() + '\n';  
outToClient.writeBytes(capitalizedS  
entence);
```

```
}
```

```
}
```

```
}
```

TCPClient.jav

a Import

```
java.io*; Import  
Java.net.*;  
}  
}
```

JdbcInsert.java

```
Import java.sql.Connection;  
Import java.sql.DriverManager;  
Import  
java.sql.PreparedStatement;  
Import java.sql.SQLException;
```

```
public class JdbcInsert {  
    public static void main(String[] args)  
    { String url =  
        "jdbc:mysql://localhost:3  
        306/javatestdb"; String  
        user = "root";  
        String password = "Parv";
```

```
    Connecti  
    on con =  
    null;  
    Prepared  
    Statemen  
    t pstmt =  
    null;
```

```
    try {  
        Class.forName("com.mysql.cj.jdbc.Driver");
```

```
con =  
DriverManager.getConnection(url, user, password);  
System.out.println("Connection Successful");  
  
String sql = "INSERT INTO students  
(roll_number, student_name) VALUES  
(?, ?)"; pstmt =  
con.prepareStatement(sql);  
  
pstmt.setInt(1,  
12345);  
pstmt.setString(2,  
"Parv  
Attrey");  
int  
rowsAffected =  
pstmt.executeUpdate(); if  
(rowsAffected  
> 0) {  
    System.out.println("Record Inserted");  
}  
  
} catch  
(ClassNotFoundException e)  
{  
    System.err.print
```

```
ln("JDBC Driver  
not found.");  
} catch (SQLException e) {  
    System.err.println("SQL Error occurred: " + e.getMessage());  
} finally { try {  
    if  
(pst  
= null)  
    pst  
ose(); if  
(con !=  
null)  
    con.clos  
e();  
} catch  
(SQL  
Excep  
tion e)  
{ e.pri  
ntStac  
kTrac  
e();  
}  
}  
}  
}  
ln("JDBC Driver  
not found.");  
} catch (SQLException e) {  
    System.err.println("SQL Error occurred: " + e.getMessage());  
} finally { try {  
    if
```

```
(stmt !=  
= null)  
stmt.close(); if  
(con !=  
null)  
con.close  
();  
} catch  
(SQLException  
e)  
{ e.printStackTrace();  
}  
}  
}  
}
```

Answer 4.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-
scale=1.0">
    <title>Joy Clarence - Profile</title>
</head>
<body style="font-family: Arial, sans-serif; background-color: #f4f6f8;
margin: 40px;">
    <h1 style="color: #2c3e50;">Joy Clarence</h1>
    <p><b>Student ID:</b> <code>230919000265</code></p>
```

About Me

<p>

Hello! My name is **Joy Clarence**, and I'm a dedicated Computer Science student passionate about learning programming, algorithms, and web development.

I enjoy creating innovative web pages and solving complex problems through coding.

</p>

My College

<div style="text-align:center;">

</div>

<p>I am currently pursuing my studies at **IMS Noida**.</p>

My Subjects

<table border="1" cellpadding="8" cellspacing="0" style="border-collapse: collapse;">

<tr style="background-color: #dfe6e9;">

<th>Subject Code</th>

<th>Subject Name</th>

</tr>
<tr>
<td>CS201</td>
<td>Java Programming and Dynamic Webpage Design</td>
</tr>
<tr>
<td>CS202</td>
<td>Data Structures and Algorithms</td>
</tr>
<tr>
<td>CS203</td>
<td>Database Management Systems</td>
</tr>
<tr>
<td>CS204</td>
<td>Operating Systems</td>
</tr>
<tr>
<td>CS205</td>
<td>Computer Network</td>
</tr>
</table>

<hr>

```
<h2>Feedback Form</h2>

<form>
    <label for="username">Username: </label>
    <input type="text" id="username" name="username"
placeholder="Enter your name">
    <input type="submit" value="Submit">
</form>

<hr>

<h2>My GitHub Repository</h2>

<p>
    Check out my project on GitHub:
    <a href="https://github.com/joy-clarence" target="_blank">Joy's
GitHub Repository</a>
</p>
<hr>

<p style="text-align:center;">&copy; 2025 Joy Clarence. All Rights
Reserved.</p>
</body>
</html>
```

Output:

Joy Clarence

Student ID: 23991998265

About Me

Hello! My name is Joy Clarence, and I'm a dedicated Computer Science student passionate about learning programming, algorithms, and web development. I enjoy creating innovative web pages and solving complex problems through coding.

My College



I am currently pursuing my studies at IMS Noida.

My Subjects

Subject Code	Subject Name
CS201	Java Programming and Dynamic Webpage Design
CS202	Data Structures and Algorithms
CS203	Database Management Systems
CS204	Operating Systems
CS205	Computer Network

Feedback Form

Username:

Activate Windows

Go to Settings to activate Windows.

