

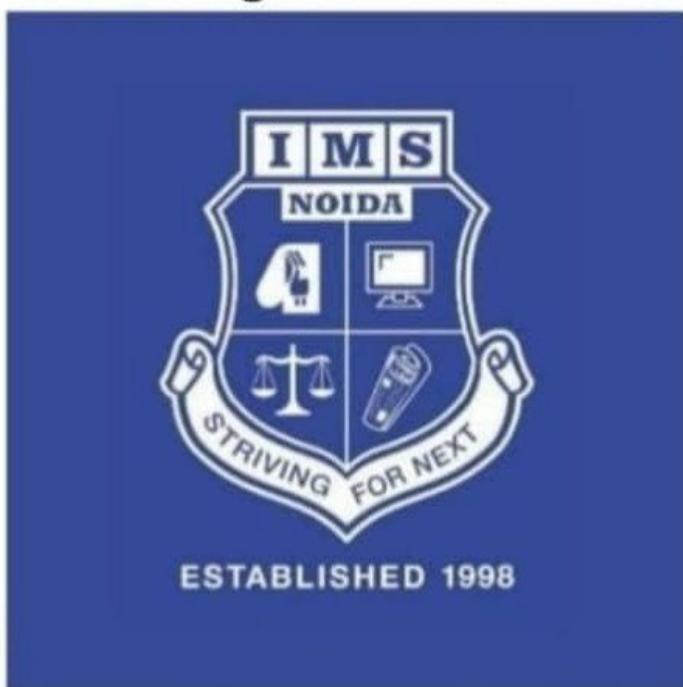


**ims noida**

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-(2023-2024)**

**Submitted to:** Anushrav Mudgal

**Submitted by:** Pranjal Gupta

**Roll No :** 230919000306

**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 AWTEExampleJoy 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);  
  
    // Add window listener for closing window  
    addWindowListener(new WindowAdapter() {  
        public void windowClosing(WindowEvent e) {  
            System.exit(0);  
        }  
    });  
}
```

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



## Output (in console)

```
Hello, Pranjali!
```

### 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("Receiv  
                        Ed: " + clientSentence);  
                    String capitalizedSentence =  
                        clientSentence.toUpperCase() + '\n';  
                    outToClient.writeBytes(capitalizedS  
                        entence);  
                }  
            }  
        }  
    }
```

**TCPClient.java**

**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.java**

**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 = “Pranjal”;  
Connecti  
On con =  
Null;  
Prepared  
Statemen  
T pstmt =  
Null;  
Try{  
Class.forName(“com.mysql.cj.jdbc.Driver”);  
Con =  
DriverManager.getConne
```

```
Ction(url, user, password);

System.out.println("Con

nection Successful");

String sql = "INSERT INTO students

(roll_number, student_name) VALUES

(?, ?); pstmt =

Con.prepareStatement(sql);

Pstmt.setI

nt(1,

12345);

Pstmt.set

String(2,

"Pranjal");

Int

rowsAffected =

pstmt.executeUpdate();

if

(rowsAffected

> 0) {

System.out.println("Record Inserted");

}

} catch

(ClassNotFoundE

Xception e)

{

System.err.print
```

```
Ln("JDBC Driver  
Not found.");  
} catch (SQLException e) {  
    System.err.println("SQL Error occurred: " + e.getMessage());  
} finally { try {  
    If  
(stmt !  
= null)  
    Pstmt.cl  
    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)  
    Pstmt.cl  
    Ose(); if  
(con !=  
Null)  
    Con.clos  
    E();  
} catch  
(SQL  
Excep  
Tion e)  
{ e.pri  
ntStac  
kTrac  
e();  
}  
}  
}  
}
```

#### Answer 4

```
<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Pranjal Gupta – Profile</title>

</head>

<body style="font-family: Arial, sans-serif; background-color: #f4f6f8; margin: 40px;">

<h1 style="color: #2c3e50;">Pranjal Gupta</h1>

<p><b>Student ID:</b> <code>230919000306</code></p>

<hr>

<h2>About Me</h2>

<p>

Hello! My name is <b>Pranjal Gupta</b>, and I'm a passionate <i>Computer Science student</i> currently studying at IMS Noida.<br>

I enjoy learning about software development, algorithms, and web technologies.

</p>

<hr>

<h2>My College</h2>

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

```
  
</div>  


<p>I am proud to be a student of <b>IMS Noida</b>, striving for excellence and  
innovation.</p>


```

```
<hr>
```

## <h2>My Subjects</h2>

Subject Code	Subject Name
CS201	Java Programming and Dynamic Webpage Design
CS202	Data Structures and Algorithms
CS203	Database Management Systems

```
<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/pranjalgupta" target="_blank">Pranjal's GitHub Repository</a>

```

</p>

<hr>

<p style="text-align:center;">&copy; 2025 Pranjal Gupta. All Rights Reserved.</p>

</body>

</html>

Pranjal Gupta

Student ID: 230919600306

---

**About Me**

Hello! My name is Pranjal Gupta, and I'm a passionate Computer Science student currently studying at IMS Noida. I enjoy learning about software development, algorithms, and web technologies.

---

**My College**



The logo of IMS Noida is a blue shield-shaped emblem. It features a white border with the letters 'I M S' at the top and 'NOIDA' below it. Inside the shield, there is a white cross. The quadrants contain symbols: a book in the top-left, a gear in the top-right, a scale in the bottom-left, and a network of lines in the bottom-right. Below the shield, the words 'TECHNOLOGY FOR NEET' are written in a curved banner. At the bottom of the shield, the year 'ESTABLISHED 1996' is inscribed.

I am proud to be a student of IMS Noida, striving for excellence and innovation.

---

**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**

Activate Windows  
Go to Settings to activate Windows.