



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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Name :-Ankit Koundal

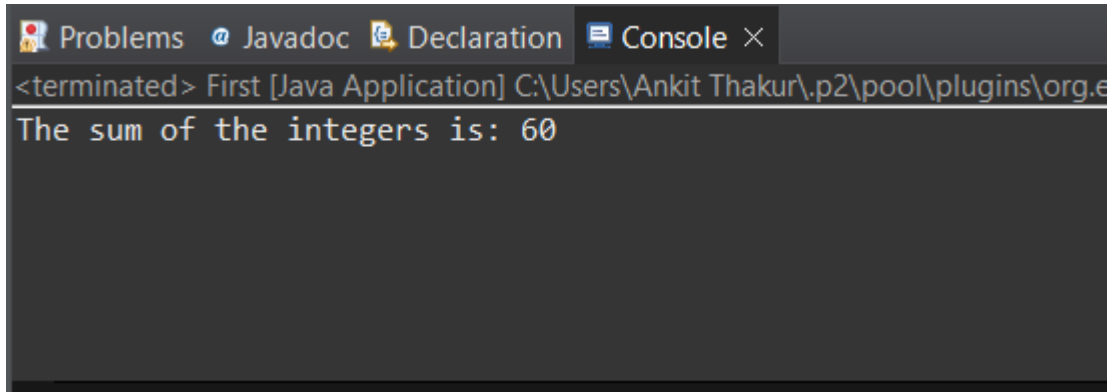
UID:-22BCS14481

CLASS:-22BCS-IOT-619 B

#CODE 1

```
package Wrap;
import java.util.ArrayList;
import java.util.List;
public class First {
    public static int calculateSum(List<Integer> integerList) {
        int sum = 0;
        for (Integer num : integerList) {
            sum += num;
        }
        return sum;
    }
    public static Integer parseInt(String str) {
        return Integer.parseInt(str);
    }
    public static void main(String[] args) {
        List<Integer> integerList = new ArrayList<>();
        integerList.add(parseInt("10"));
        integerList.add(parseInt("20"));
        integerList.add(parseInt("30"));
        int sum = calculateSum(integerList);
        System.out.println("The sum of the integers is: " + sum);
    }
}
```

OUTPUT



The screenshot shows an IDE window with tabs for Problems, Javadoc, Declaration, and Console. The Console tab is active, displaying the output of a Java application. The output text is: <terminated> First [Java Application] C:\Users\Ankit Thakur\p2\pool\plugins\org.e The sum of the integers is: 60

#code 2

-main.java

```
package Second;
import java.io.*;
public class Main {
    public static void serializeStudent(Student student, String filename) {
        try (ObjectOutputStream out = new ObjectOutputStream(new FileOutputStream(filename))) {
            out.writeObject(student);
            System.out.println("Student object serialized successfully.");
        } catch (FileNotFoundException e) {
            System.out.println("File not found: " + e.getMessage());
        } catch (IOException e) {
            System.out.println("IOException occurred: " + e.getMessage());
        }
    }
    public static Student deserializeStudent(String filename) {
        Student student = null;
        try (ObjectInputStream in = new ObjectInputStream(new FileInputStream(filename))) {
            student = (Student) in.readObject(); // Deserializes the student object
            System.out.println("Student object deserialized successfully.");
        } catch (FileNotFoundException e) {
            System.out.println("File not found: " + e.getMessage());
        } catch (IOException e) {
            System.out.println("IOException occurred: " + e.getMessage());
        } catch (ClassNotFoundException e) {
            System.out.println("Class not found: " + e.getMessage());
        }
        return student;
    }
    public static void main(String[] args) {
        Student student = new Student(1, "ANKIT KOUNDAL ", 8.38);
        String filename = "student.ser";
        serializeStudent(student, filename);
        Student deserializedStudent = deserializeStudent(filename);
        if (deserializedStudent != null) {
            deserializedStudent.displayStudentDetails();
        }
    }
}
```

Student.java

```
package Second;
import java.io.Serializable;
public class Student implements Serializable {
    private static final long serialVersionUID = 1L;
    private int id;
    private String name;
    private double gpa;
    public Student(int id, String name, double gpa) {
        this.id = id;
        this.name = name;
        this.gpa = gpa;
    }
    public int getId() {
        return id;
    }
    public String getName() {
        return name;
    }
    public double getGpa() {
        return gpa;
    }
    // To display student details
    public void displayStudentDetails() {
        System.out.println("Student ID: " + id);
        System.out.println("Student Name: " + name);
        System.out.println("Student GPA: " + gpa);
    }
}
```

#OUTPUT

```
Student object serialized successfully.
Student object deserialized successfully.
Student ID: 1
Student Name: ANKIT KOUNDAL
Student GPA: 8.38
```

#code 3

```
package Third;
import java.sql.*;
import java.util.Scanner;

public class EmployeeManagement {

    private static Connection connection;
```



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```
private static Scanner scanner = new Scanner(System.in);

private static void connectToDatabase() {
    try {

        String url = "jdbc:mysql://localhost:3306/employee_db";
        String username = "root";
        String password = "password";

        connection = DriverManager.getConnection(url, username, password);
        System.out.println("Connected to the database.");
    } catch (SQLException e) {

        System.out.println("Database connection failed: " + e.getMessage());
    }
}

private static void addEmployee() {
    try {

        if (connection == null) {
            System.out.println("Database connection is not established.");
            return;
        }
        System.out.print("Enter Employee Name: ");
        String name = scanner.nextLine();
        System.out.print("Enter Employee ID: ");
        int id = scanner.nextInt();
        scanner.nextLine();
        System.out.print("Enter Designation: ");
        String designation = scanner.nextLine();
        System.out.print("Enter Salary: ");
        double salary = scanner.nextDouble();
        scanner.nextLine();
        String query = "INSERT INTO employees1 (employee_id, employee_name, designation, salary) VALUES
(? , ? , ? , ?)";
        PreparedStatement stmt = connection.prepareStatement(query);
        System.out.println("anshul koundal");
        stmt.setInt(1, id);
        stmt.setString(2, name);
        stmt.setString(3, designation);
        stmt.setDouble(4, salary);

        int result = stmt.executeUpdate();
        if (result > 0) {
            System.out.println("Employee added successfully!");
        } else {
            System.out.println("Failed to add employee.");
        }

    } catch (SQLException e) {

        System.out.println("Error adding employee: " + e.getMessage());
    }
}

private static void displayAllEmployees() {
    try {

        if (connection == null) {
```



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```
        System.out.println("Database connection is not established.");
        return;
    }
    String query = "SELECT * FROM employees1";
    Statement stmt = connection.createStatement();
    ResultSet rs = stmt.executeQuery(query);
    while (rs.next()) {
        System.out.println("Employee ID: " + rs.getInt("employee_id"));
        System.out.println("Employee Name: " + rs.getString("employee_name"));
        System.out.println("Designation: " + rs.getString("designation"));
        System.out.println("Salary: " + rs.getDouble("salary"));
        System.out.println("-----");
    }

    } catch (SQLException e) {

        System.out.println("Error displaying employees: " + e.getMessage());
    }
}

private static void closeConnection() {
    try {
        if (connection != null) {
            connection.close();
            System.out.println("Database connection closed.");
        }
    } catch (SQLException e) {

        System.out.println("Error closing connection: " + e.getMessage());
    }
}

public static void main(String[] args) {

    connectToDatabase();
    while (true) {
        System.out.println("\nMenu:");
        System.out.println("1. Add an Employee");
        System.out.println("2. Display All Employees");
        System.out.println("3. Exit");
        System.out.print("Select an option: ");
        int choice = scanner.nextInt();
        scanner.nextLine();

        switch (choice) {
            case 1:
                addEmployee();
                break;
            case 2:
                displayAllEmployees();
                break;
            case 3:
                closeConnection();
                System.out.println("Exiting application.");
                return;
            default:
                System.out.println("Invalid choice. Please try again.");
        }
    }
}
```

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Output

```
EmployeeManagement [Java Application] C:\Users\Ankit Thakur\p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_23.0.2.v20250
Connected to the database.

Menu:
1. Add an Employee
2. Display All Employees
3. Exit
Select an option: 1
Enter Employee Name: ANKIT KOUNDAL
Enter Employee ID: 14481
Enter Designation: SOFTWARE ENGINEER
Enter Salary: 1000000
ANKIT KOUNDAL
Employee added successfully!

Menu:
1. Add an Employee
2. Display All Employees
3. Exit
Select an option:
```