



Department of Computer Technology

Vision of the Department

To be a well-known centre for pursuing computer education through innovative pedagogy, value-based education and industry collaboration.

Mission of the Department

To establish learning ambience for ushering in computer engineering professionals in core and multidisciplinary area by developing Problem-solving skills through emerging technologies.

Session 2025-2026

Vision: Dream of where you want.	Mission: Means to achieve Vision
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Program Educational Objectives of the program (PEO): (broad statements that describe the professional and career accomplishments)

PEO1	Preparation	P: Preparation	Pep-CL abbreviation pronounce as Pep-si-LL easy to recall
PEO2	Core Competence	E: Environment (Learning Environment)	
PEO3	Breadth	P: Professionalism	
PEO4	Professionalism	C: Core Competence	
PEO5	Learning Environment	L: Breadth (Learning in diverse areas)	

Program Outcomes (PO): (statements that describe what a student should be able to do and know by the end of a program)

Keywords of POs:

Engineering knowledge, Problem analysis, Design/development of solutions, Conduct Investigations of Complex Problems, Engineering Tool Usage, The Engineer and The World, Ethics, Individual and Collaborative Team work, Communication, Project Management and Finance, Life-Long Learning

PSO Keywords: Cutting edge technologies, Research

"I am an engineer, and I know how to apply engineering knowledge to investigate, analyse and design solutions to complex problems using tools for entire world following all ethics in a collaborative way with proper management skills throughout my life." to contribute to the development of cutting-edge technologies and Research.

Integrity: I will adhere to the Laboratory Code of Conduct and ethics in its entirety.

Name and Signature of Student and Date

(Signature and Date in Handwritten)



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Session	2025-26 (ODD)	Course Name	Lab: Java stack
Semester	5	Course Code	23CT1506
Roll No	23	Name of Student	Srushti Chaudhari

Practical Number	1										
Course Outcome	Develop backend applications using object-oriented programming concepts and implement data persistence using relational databases.										
Aim	Implement basic Java programs (loops, conditionals, arrays)										
Problem Definition	<p>1. Problem Statement: Lottery Develop a program to play lottery. the program randomly generates a lottery of a two-digit number, prompts the user to enter a two-digit number, and determines whether the user wins according to the following rules:</p> <ol style="list-style-type: none"> If the user input matches the lottery number in the exact order, the award is \$10,000. If all digits in the user input match all digits in the lottery number, the award is \$3,000. If one digit in the user input matches a digit in the lottery number ,the award is \$1,000. <p>2. Problem Statement: Computing Body Mass Index Write a program that prompts the user to enter a weight in pounds and height in inches and displays the BMI. * One pound is 0.45359237 kilograms, one inch is 0.0254 meters.</p> <ol style="list-style-type: none"> It can be calculated by taking your weight in kilograms and dividing it by the square of your height in meters. The interpretation of BMI for people 20 years or older is as follows: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; width: 50%;">BMI</th> <th style="text-align: center; width: 50%;">Interpretation</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">BMI<18.5</td> <td style="text-align: center;">Underweight</td> </tr> <tr> <td style="text-align: center;">18.5<=BMI<25.0</td> <td style="text-align: center;">Normal</td> </tr> <tr> <td style="text-align: center;">25.0<=BMI<30.0</td> <td style="text-align: center;">Overweight</td> </tr> <tr> <td style="text-align: center;">30.0<=BMI</td> <td style="text-align: center;">Obese</td> </tr> </tbody> </table>	BMI	Interpretation	BMI<18.5	Underweight	18.5<=BMI<25.0	Normal	25.0<=BMI<30.0	Overweight	30.0<=BMI	Obese
BMI	Interpretation										
BMI<18.5	Underweight										
18.5<=BMI<25.0	Normal										
25.0<=BMI<30.0	Overweight										
30.0<=BMI	Obese										
Theory (100 words)	An array in Java is a fixed-size data structure used to store multiple values of the same data type in a single variable. Each element in an										



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	<p>array is accessed by its index, starting from zero. Arrays are static, meaning their size is set when they are created and cannot be changed later. They provide efficient access and are commonly used to store and process collections of data. Arrays can hold both primitive and object types and are essential for organizing and managing multiple related values.</p> <p>Loops in Java are control structures that allow repeating a block of code multiple times based on a condition. They help automate repetitive tasks efficiently. Java mainly provides three types of loops: for, while, and do-while. A for loop is used when the number of iterations is known, while while and do-while loops run based on a condition that may depend on dynamic factors. Loops improve code readability and reduce redundancy by handling repetitive operations.</p> <p>Conditionals in Java control the flow of a program by executing different blocks of code based on boolean conditions. The main conditional statements are if, if-else, and switch. They evaluate expressions that result in true or false, allowing the program to make decisions and respond accordingly. Conditionals are essential for implementing logic, handling different scenarios, and controlling how a program behaves under various inputs or states.</p>
Procedure and Execution (100 Words)	<p>Algorithm:</p> <p>1. Problem Statement: Lottery</p> <ol style="list-style-type: none">1. Start2. Generate a random two-digit lottery number3. Prompt the user to enter a two-digit number (their lottery choice)4. Read the user's input using Scanner5. Extract digits of both:<ul style="list-style-type: none">o Lottery number → lotteryDigit1, lotteryDigit2o User's choice → choiceDigit1, choiceDigit26. Display the generated lottery number7. Compare the user's input with the lottery number:<ul style="list-style-type: none">o If the numbers match exactly → Print "YOU WIN \$10,000"



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	<ul style="list-style-type: none">○ Else if the digits match but in reverse order → Print "YOU WIN \$3,000"○ Else if any one digit matches → Print "YOU WIN \$1,000"○ Else → Print "Sorry no match, Better luck next time!" <p>8. Close the Scanner</p> <p>9. End</p>
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	<ul style="list-style-type: none">• Else, print "Obese" <p>10: Close the Scanner.</p> <p>11: End</p>
	<p>Code:</p> <p>1. Problem Statement: Lottery</p> <pre>import java.util.Scanner; public class Lottery{ public static void main(String[] args) { int lottery=(int)(Math.random()*90+10); Scanner sc = new Scanner(System.in); System.out.println("Enter your lucky choice two-digit no. for lottery"); int choice = sc.nextInt(); int lotteryDigit1 = lottery/10; int lotteryDigit2 = lottery%10; int choiceDigit1 = choice/10; int choiceDigit2 = choice%10; System.out.println("lottery no. is "+lottery); if(choice == lottery){ System.out.println("the lottery number in the exact order(match)!!! \n YOU WIN \$10,000"); } else if(choiceDigit1 == lotteryDigit2 && choiceDigit2 == lotteryDigit1){ System.out.println("Match all Digit!!! \n YOU WIN \$3,000"); } else if(choiceDigit1 == lotteryDigit1 choiceDigit1 == lotteryDigit2 choiceDigit2 == lotteryDigit1 choiceDigit2 == lotteryDigit2){ System.out.println("Match one Digit!!! \n YOU WIN \$1,000"); } else{ System.out.println("Sorry no Match, Better Luck next time!!!!"); } sc.close(); } }</pre>



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```
}
```

}

2. Problem Statement: Computing Body Mass Index

```
import java.util.Scanner;
```

```
public class BMICalculator {
```

```
    public static void main(String[] args) {
```

```
        Scanner sc = new Scanner(System.in);
```

```

        System.out.print("Enter your weight in
```

```
        pounds: ");
```

```
        double weightInPounds = sc.nextDouble();
```

```

        System.out.print("Enter your height in
```

```
        inches: ");
```

```
        double heightInInches = sc.nextDouble();
```

```

        double weightInKg = weightInPounds *
```

```
        0.45359237;
```

```
        double heightInMeters = heightInInches *
```

```
        0.0254;
```

```

        double bmi = weightInKg / (heightInMeters *
```

```
        heightInMeters);
```

```

        System.out.printf("Your BMI is: %.2f\n",
```

```
        bmi);
```

```

        if (bmi < 18.5) {
```

```
            System.out.println("Interpretation:
```

```
Underweight");
```

```
        } else if (bmi < 25.0) {
```

```
            System.out.println("Interpretation:
```

```
Normal");
```

```
        } else if (bmi < 30.0) {
```

```
            System.out.println("Interpretation:
```

```
Overweight");
```

```
        } else {
```

```
            System.out.println("Interpretation:
```

```
Obese");
```

```
        }
```

```

        sc.close();
```

```
}
```

```
}
```



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	<p>Output:</p> <p>1. Problem Statement: Lotter</p> <pre>Enter your lucky choice two-digit no. for lottery 59 lottery no. is 88 Sorry no Match, Better Luck next time!!! ==== Code Execution Successful ====</pre> <p>Enter your lucky choice two-digit no. for lottery</p> <p>78</p> <p>lottery no. is 86</p> <p>Match one Digit!!!</p> <p>YOU WIN \$1,000</p> <p>==== Code Execution Successful ====</p> <p>2. Problem Statement: Computing Body Mass Index</p> <pre>Enter your weight in pounds: 180.77 Enter your height in inches: 74 Your BMI is: 23.21 Interpretation: Normal ==== Code Execution Successful ====</pre> <p>Enter your weight in pounds: 95</p> <p>Enter your height in inches: 74</p> <p>Your BMI is: 12.20</p> <p>Interpretation: Underweight</p> <p>==== Code Execution Successful ====</p>
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	<p>Enter your weight in pounds: 202.85 Enter your height in inches: 74 Your BMI is: 26.04 Interpretation: Overweight</p> <p>==== Code Execution Successful ===</p>
Output Analysis	<p>1. Problem Statement: Lottery</p> <p>Input: User enters a two-digit number. Output: Compares with a random lottery number. Possible Outputs:</p> <p>Exact match → YOU WIN \$10,000 All digits match (reverse order) → YOU WIN \$3,000 One digit matches → YOU WIN \$1,000 No match → Better luck next time</p> <p>2. Problem Statement: Computing Body Mass Index</p> <p>Input: User enters weight (pounds) and height (inches). Output: Displays BMI and health category. Possible Outputs:</p> <p>BMI < 18.5 → Underweight BMI 18.5–24.9 → Normal</p> <p>BMI 25–29.9 → Overweight BMI ≥ 30 → Obese</p>
Link of student Github profile where lab assignment has been uploaded	https://github.com/SRchaudhari15/Java-Project.git
Conclusion	Successfully implemented the both problem statement, learn about concept of some Java like loops, conditionals, arrays.



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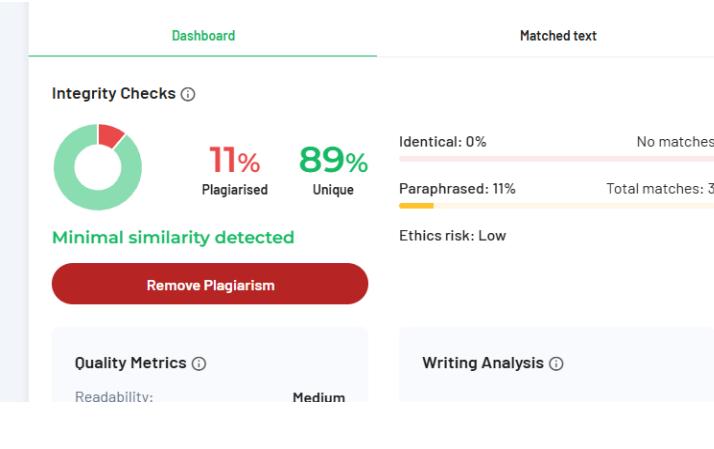
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Date	09/11/25