**Session 2025-2026**

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| **Vision:**  *To be a well-known centre for pursuing computer education through innovative pedagogy, value-based education and industry collaboration* | **Mission:** *To establish learning ambience for ushering in computer engineering professionals in core and multidisciplinary area by developing Problem-solving skills through emerging technologies****.*** |

**Program Educational Objectives of the program (PEO):** (broad statements that describe the professional and career accomplishments)

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| 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.

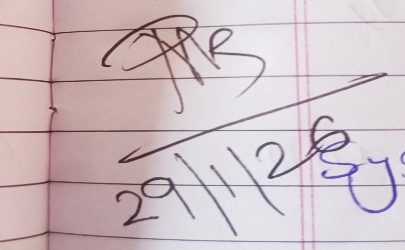
**Name and Signature of Student and Date**

(Signature and Date in Handwritten)

**KARTIK GAJANAN PATIL**

**03/02/2026**

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| **Session** | | **2025-26 (EVEN)** | **Course Name** | **JAVA FSD Lab** | |
| **Semester** | | **4th** | **Course Code** | **23ADS1407** | |
| **Roll No** | | **144** | **Name of Student** | **Kartik Patil** | |
|  | |  |  |  |  |
| Practical Number | **03** | | | | |
| Course Outcome | After completing this program, students will be able to create a simple Java application that accepts user input, perform arithmetic operations using a switch-case statement, and display results. They will understand how to use variables, take input with the Scanner class, implement decision-making constructs, and handle basic runtime conditions like division by zero, thereby developing fundamental problem-solving and programming skills in Java. | | | | |
| Aim | **To write a Java program to design a simple calculator using switch case statement to perform basic arithmetic operations.** | | | | |
| Problem Definition | Write a Java program to create a simple calculator that accepts two numbers and an operator from the user and performs arithmetic operations such as addition, subtraction, multiplication, and division using a switch case statement. | | | | |
| Theory  (100 words) | A simple calculator program in Java is used to perform basic arithmetic operations such as addition, subtraction, multiplication, and division. The program accepts two numbers and an operator (+, -, \*, /) from the user at runtime. The Scanner class is used to read the user input, and the values are stored in variables for processing.    The program uses a switch-case statement to determine which arithmetic operation to perform based on the operator entered by the user. Each case handles one operation, and the default case handles invalid operators. This approach demonstrates the use of decision-making constructs, input handling, and basic arithmetic operations in Java, helping students understand fundamental programming concepts and problem-solving techniques. | | | | |
| Procedure and Execution  (100 Words) | Algorithm:   1. Start the program. 2. Declare variables to store two numbers and an operator. 3. Accept two numbers from the user. 4. Accept an operator (+, −, \*, /) from the user. 5. Use a switch statement to perform the operation based on the selected operator. 6. Display the result of the operation. 7. If an invalid operator is entered, display an error message. 8. Stop the program. | | | | |
| Code:  import java.util.Scanner;  public class calculator {  public static void main(String[] args) {  Scanner sc=new Scanner(System.*in*);   System.*out*.print("Enter first number: ");  double a=sc.nextDouble();   System.*out*.print("Enter second number: ");  double b=sc.nextDouble();   System.*out*.print("Enter operator (+ - \* /): ");  char op=sc.next().charAt(0);   switch(op){  case '+': System.*out*.println("Result="+(a+b)); break;  case '-': System.*out*.println("Result="+(a-b)); break;  case '\*': System.*out*.println("Result="+(a\*b)); break;  case '/':  if(b!=0) System.*out*.println("Result="+(a/b));  else System.*out*.println("Error");  break;  default: System.*out*.println("Invalid operator");  }  } } | | | | |
| Output: | | | | |
| Output Analysis | **Output Analysis:** The program takes two numbers and an operator from the user. It performs the corresponding arithmetic operation using a switch-case and displays the result. For invalid operators or division by zero, it shows an appropriate error message.  Example:  Input: 10, 5, \*  Output: Result = 50.0 | | | | |
| Link of student Github profile where lab assignment has been uploaded | https://github.com/Kartikpatil1905/JAVA-PRACTICALS | | | | |
| Conclusion | The simple calculator program demonstrates how to take user input, use decision-making with a switch-case statement, perform basic arithmetic operations, and handle errors like invalid operators or division by zero. It helps in understanding fundamental Java concepts such as variables, input handling, and control structures, while developing problem-solving skills. | | | | |
| Plag Report (Similarity index < 12%) |  | | | | |
| Date | **3/2/2026** | | | | |

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