|  | **Pimpri Chinchwad Education Trust’s**  **Pimpri Chinchwad College of Engineering** |
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**Practical Assignment**

| **Department: MCA Semester:** I | **Academic Year:** 2024-2025 **Year and Div.: FYMCA** | | **Maximum Marks:** |
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| **Subject: Java Programming Lab** | | **Subject Teacher: Prof. Rajkamal Sangole**  **Name & sign** | |
| **Assignment No: 1** | **Date:** | | **Date of Submission:** |

1. Write a Java program to check whether a given number is even or odd using an if-else statement.
2. Write a Java program that takes a student's score as input and assigns a grade (A, B, C, D, F) using nested if-else statements.
3. Write a Java program to check whether a given year is a leap year or not using a series of if-else conditions.
4. Write a Java program to find the largest of three numbers using nested if-else statements.
5. Write a Java program that takes two numbers and an operator (+, -, \*, /) as input and performs the corresponding operation using a switch statement.
6. Write a Java program to calculate the sum of the first N natural numbers using a for loop.
7. Write a Java program to calculate the sum of the digits of a given number using a while loop.
8. Write a Java program to print the first N numbers in the Fibonacci series using a for loop.
9. Write a Java program to check if a given number is a prime number using a for loop and if-else statements.
10. Write a Java program to display the multiplication table for a given number using a while loop.

**Practice Programs:**

1. Write a Java program to reverse a given number using a while loop.
2. Write a Java program to check whether a given number is an Armstrong number using a for loop and if-else statements.
3. Write a Java program to check if a given string is a palindrome using a for loop.
4. Write a Java program for a number guessing game where the user has to guess a randomly generated number between 1 and 100 using a do-while loop.
5. Write a Java program to calculate the sum of the digits of a given number using a while loop.
6. Write a Java program to count the number of vowels and consonants in a given string using a for loop and switch statement.
7. Write a Java program to print a pyramid pattern of stars using nested for loops.
8. Write a Java program to calculate the simple interest based on user input for principal, rate of interest, and time period using if-else statements for input validation.
9. Write a Java program to convert a binary number to its decimal equivalent using a for loop.
10. Write a Java program to input a month number and year, and output the number of days in that month using a switch statement.