EXPERIMENT – 1

TITLE: Introduction to Java Environment

1. Explore and understand the role of JDK, JRE and JVM.
2. Install latest available JDK and verify the Java Environment.
3. Create a Sample Hello World Program using simple text editor (e.g. Notepad) and show the steps to compile and execute the program using command prompt.
4. Display your name and complete address in different lines.

Additional Question:

5. Design a visually appealing gradesheet that displays the Name, Roll Number, SAP ID, and Result. Use escape sequences and special characters like '*' to enhance its presentation. [No need to take any input from User].

EXPERIMENT – 2

TITLE: Basic Java Programming

1. Write a program to find area of triangle.
2. Write a program to find simple interest.
3. Write a program to implement a command line calculator. (Try for Add sub Mul in same program for 2 digits.)
   (Hint: Integer.parseInt will be used)
   For e.g. java calc 20 + 30
   Output should be Sum of 20 and 30 is 50

   java calc 50 * 30
   Output should be Product of 50 and 30 is 1500
4. Write a Java program to check whether a given number is positive, negative, or zero using an if-else statement.
5. Create a program that accepts three integers and determines the greatest among them using nested if-else statements.
6. Create a program that accepts a number (1–7) and displays the corresponding day of the week using a switch statement.

Additional Question:

1. Write a program to calculate the final grade of a student based on the marks entered in three subjects. Use the following grading scale:

Average >= 90: Grade A
Average >= 75: Grade B
Average >= 50: Grade C
Otherwise: Grade F

2. WAP to Take input as DD MM YYYY(04 08 2021) in command line and calculate number of days since 1 January 1970.

EXPERIMENT – 3

TITLE: Basic Java Programming (Loops & Arrays)

1. Write a program to calculate the sum of all integers between 10 and 950 that are divisible by both 6 and 9.
2. Write a Java program that takes an integer as input and calculates the sum of its digits using a while loop.
3. Write a Java program that prints the first N terms of the Fibonacci series using a loop.
4. Write a Java program to count and display the total number of prime numbers between 1 and 1000.
5. Write a Java program that counts how many times a given number appears in an array.
   Input: arr = [2, 3, 2, 5, 2, 6], target = 2
   Output: 3
6. Write a Java program to find the second largest element in an integer array without sorting the array.
7. WAP to print the following pattern using loop

```
?
# # #
? ? ? ? ?
# # # # # # #
? ? ? ? ? ? ? ? ?
```

Additional Questions:

1. Write a Java program that copies all elements from one array to another using a loop.
2. Given an array containing N-1 unique numbers from 1 to N, write a Java program to find the missing number.
   Input: [1, 5, 6, 2, 4]
   Output: 3
3. Write a Java program to rotate an array right by K positions.

   Input: arr = [1, 2, 3, 4, 5], K = 2

   Output: [4, 5, 1, 2, 3]